

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, February 17, 1912

Number 17

A FEBRUARY 22 DINNER

HATCHETS, CHERRIES, AND CANDLES
FOR THE TABLE DECORATIONS.

Pimento Plants for Centerpieces Resemble Small Cherry Trees—Let the Guests Toast Marshmallows Over the Candles—The Menu.

Washington's birthday is always a good time to entertain. For instance, a progressive luncheon, suggested by a girl student in the domestic science school at the agricultural college, is simple and may be carried out successfully and with little expense by any girl: The guests are to be seated around small tables—four at a table—and after each course two guests from every table move or progress to the next table. This gives all of the

per, pasted on the back of every place card, affords a place to strike the match. The guest may then light his candle and toast the marshmallows on the end of the flag stick.

IS THIS TO COME?

"A Gentle Jury," by College Women, Portrays a Dismal Future.

It is not especially arduous for a lot of young persons to produce a one- or two-act playlet; it is, very often, a relaxation, and fine practice in the business of not saying things they would like to say. But for a group of matrons to work out just one act, do it with exceptional snap and intelligence—without one rehearsal in which the whole company participated—is quite a different, and vastly more important, undertaking. One would ex-



Fairchild Hall and Anderson Hall After the Snow.

guests present a chance to talk to all the other guests. Small tables and chairs can be rented very cheaply if they are needed. If not enough lunch cloths are on hand to cover the tables, white crepe paper ones are easily and cheaply procured.

The decorations should be simple but effective, carrying out the Washington birthday idea. Have the shades drawn and candles lighted, two candles on each table, placed at opposite ends.

A FEW PALMS WILL HELP.

If possible, get some palms and set them around in the rooms. These may be procured for \$2.50 or \$3 a load and they add more than that to the effectiveness. The tables and chandeliers should be decorated with little silk flags.

The only other table decorations besides the candles should be the centerpieces. For these, small, pimento plants may be rented from a nearby greenhouse. These look like small cherry trees, and if a few candied cherries are put on the branches it makes a very effective centerpiece. Little home-made candy boxes with candied cherries dipped in fondant make pretty favors. Any girl can make cunning little boxes of different shapes. And with little red, white, and blue water colors she can decorate them prettily for the occasion. The candle shades may also be made by the ingenious girl. They call only for white water color paper and paints. Place cards may be made of stiff, red paper in the form of little hatchets.

IT'S A RED MENU.

A red color scheme should be carried out in the menu. Here is one in which it may be done effectively:

Cherry punch

Creamed chicken in timbale cases

Potato chips Lettuce and nut sandwiches

Olives stuffed with almonds

Red currant jelly

Cheese salad garnished with pimento saltines

Brick ice cream made in the colors of a flag
White cake cut in squares. On top of every square a little hatchet made of citron

The last course may be served on a small plate to which is fastened, on the edge, a candle in a Christmas tree candle holder. On the plate is a match, a small flag, and three marshmallows. A small piece of sand pa-

per many deficiencies to develop into embarrassments in such circumstances, but nothing of the sort appeared when the "Women of the College Society" presented "A Gentle Jury," Tuesday night, in the Domestic Art hall of the Domestic Science and Art building. Very few amateur performances go more smoothly. It was, indeed, an excellently presented little farce, done with extraordinary cleverness by the women, and withal so evenly that especial mention of any one character would be unnecessary. When seasoned theater-goers pronounce a play worth seeing and hearing, and declare that it has been creditably presented, one may feel certain that no member of the caste committed what Walt Mason calls a "Faux Pas." This playlet was funny and it was good.

"A Gentle Jury" was presented by this company of college women: Mrs. E. V. Floyd, Mrs. J. E. Kammeyer, Mrs. Burton Rogers, Mrs. C. A. Scott, Mrs. Charles Dillon, Mrs. C. M. Brink, Miss Wilma Kammeyer, Mrs. J. O. Hamilton, Mrs. J. W. Searson, Mrs. E. L. Holton, Mrs. R. P. Harbold, Mrs. S. W. McGarrath, and Mrs. B. L. Remick. Mrs. Olof Valley was chairman of the committee in charge of the entertainment. The decorations in the hall, arranged for the occasion, were Valentine hearts, and bows and arrows. Immediately after the performance, or as soon after as it was possible to find a match, tea and coffee and sandwiches were served. Professor McKeever—who, it may be remembered, does not smoke—provided the matches for the several types of burners. President Waters expressed some concern over the absence of matches in a building where one would, very naturally, expect to find the best kind.

The "Women of the College" have organized to encourage acquaintanceships in the board of instruction, a better spirit of fellowship, a little more of the get-together habits. Probably two hundred and fifty persons attended the second of these "Get togethers" Tuesday night. And there are others to come.

A few drops of oil of lavender will sweeten the air in a room and a little sprinkled in the book cases before they are shut up for the summer will keep the books from moulding.

BROOM CORN SELLS HIGH

THE "BRUSH," IF IT IS GOOD, IS WORTH \$150 A TON.

It is a Crop Suited to Western Kansas Because it Withstands Dry Weather—Sow Soon After Corn is Planted.

Broom corn at \$150 a ton—sounds good, doesn't it? Many tons have been sold around this mark, and in fact there is always a demand for extra good quality of "brush." But experience and the right kind of soil are factors necessary in its production.

The approximate cost of producing and marketing one ton of broom corn is \$35 to \$50 a ton for a small acreage, but on a larger scale this amount can be reduced about twenty per cent. In the dry-farming region of Kansas the selling price ranges from \$50 to \$150 a ton, according to the season, skill in production, and the demand. It takes from three to five acres to produce one ton of broom corn "brush."

There are two kinds of broom corn, the Standard and the Dwarf. The latter grows from four to six feet tall and can stand considerable dry weather. Therefore, it is very well adapted to western Kansas. The Standard variety grows very tall and is not as well adapted to Kansas climate, except in the extreme eastern part, where there is more rainfall.

SELL THE SEED, TOO.

Broom corn is used in the manufacture of brooms of all kinds. The bushy head, the part used in the broom making, is called "brush," and it is the texture of this part of the plant which determines the value of the crop. There is also a good market for the pure seed. It is quality and not quantity of "brush" which fixes the price of broom corn. Many large and profitable yields of broom corn have been recorded, and to a farmer of no experience in this line, these appeal very strongly. He realizes the large profits to be made, and without enough investigation or experience plants a large acreage to broom corn. As a result of his inability to take proper care of it, his crop is of inferior grade and will bring him little profit. If broom corn is to be raised it should be first tried out on a small plot.

The climate, Professor Jardine says, is more important than the soil in the production of broom corn. Rain is needed at the early part of the growing season to produce strong and rapid growth. Dry, clear weather at harvest time and during the last stages of growth is needed to give color and quality to the "brush," and from two to three months of good growing weather are needed to produce the crop. Corn land is sufficiently fertile to grow broom corn, but the best soil is light, sandy soil; rich land tends to produce coarse straw. River bottoms that are overflowed are no good on account of containing so much weed seed.

SEED-BED SAME AS CORN.

The best results are obtained by planting broom corn from two to four weeks later than corn. There should be a uniform soil bed for uniform maturity. The surface of the soil should be clear of all stalks and other trash. For the seed bed the same conditions which apply to corn apply to broom corn, and the cultivation is very similar to that of corn. The rows should be planted from three to three and one-half feet apart and the plants three to four inches apart in the rows. Two or three quarts of pure seed to the acre is enough to plant. It is advisable to plant in lister furrows, especially in the western part of Kansas, using sorghum plates in an ordinary lister. If surface planted, an ordinary corn planter with sorghum

plates or an ordinary grain drill with some of the holes stopped up may be used. Cultivation should begin early and be repeated frequently to prevent weeds from getting a start.

The best time for harvesting is close to the blossoming time. The crop usually is harvested by pulling the heads by hand, leaving a foot or more of the stock attached. After being pulled it is removed to drying sheds, stored, and threshed. In storing, only straight "brush" is desired for brooms. If a uniform green color is maintained it should be carefully dried after threshing. Rapid drying with direct sunlight is best. An open shed is often used to dry the "brush." After dry and ready for market it is put up in bales of 300 to 400 pounds each. When once the harvesting process has started it must be hurried through, as much damage is done by bad weather.

CLEAN HOGS MORE HEALTHY

Diseases Caused by Filthy Pens Often Mistaken for Cholera.

Cholera, parasites and pneumonia are some of the worst troubles hog breeders have to fight this time of year. The parasites, or worms as they are called, commonly, are always with the hogs, more or less. It will be possible to eradicate cholera from the swine industry, according to Dr. F. S. Schoenleber, state veterinarian of Kansas, before the breeders will be able to rid their stock of parasites. Pneumonia may be prevented by keeping the hogs from taking cold.

Hogs are kept for years on the same lot—generation after generation—until the soil becomes saturated with the different parasites and their eggs. With such surroundings a hog is certain to be affected. The animals look scrawny, and cholera is blamed for their condition.

Sanitation is the foundation of successful hog rearing. A hog lot should be plowed frequently, and thoroughly disinfected. Every two or three years the lot should be changed to a new location. A hog isn't dirty in its habits. If given half a chance it will keep clean.

One thing few persons know about a hog: It requires twice the breathing space for its weight as a horse or cow. A hog can stand only half the exposure. Its fat may seem like a blanket,

TEST THE CORN KERNELS

IT MAY GIVE YOU A LARGER YIELD NEXT FALL.

A Shallow Box Filled With Sand and Divided Into Small Squares by Wires Makes a Good Germinating Box—Label the Ears.

Millions of dollars might be saved, annually, if every farmer in the country tested his seed corn. This may seem a bit stiff, but figure it out for yourself. At least 90 per cent of the seed corn is planted without a test. That means a very large percentage of it is infertile; and if only one of every twelve ears planted is worthless the loss is from \$2 to \$3 an acre. It wouldn't take long to run into the millions, would it?

THIS IS THE WAY.

It is neither difficult nor expensive to make a germination test. Here is a method used at the Kansas Agricultural College. A number of germinating boxes will be needed. Boxes two or three inches deep and from two to four feet square are best. These boxes should be filled with sand or soil and small copper wires stretched over them in such a way as to divide the surface of every box into two-inch squares. Label every box and every square. A convenient system of labeling is to letter the boxes A, B, C, D, etc., the squares in the boxes a, b, c, d, e, etc., vertically, and number them 1, 2, 3, 4, 5, etc., horizontally.

Select ears as nearly like the type desired as it is possible to get and put a number of them in a row on a floor or table. Remove six kernels from every ear—two from near the tip, two from the center, and two from near the butt. Place these kernels in the squares in regular order, keeping the grains from different ears in separate squares, so that if the grains in any square fail to germinate the ear from which they came may be discarded. When kernels from every ear in the row have been placed in the box, a board or strip of cloth should be laid on top of the row and a second row put on top of the first. Grains from the ears in this row should be placed in the tester in order, similar to those from the first row.

This method may be repeated until a rank of corn several ears high has



A Part of the North Wing of Buildings in February.

but the blood is the heat of all animals. A hog gets chilled easily because of the poor surface circulation, contracts pneumonia, dies, and cholera is credited with another victim.

A simple remedy for worms is a mixture of wood ashes, salt, and air-slacked lime, mixed about equal parts. It won't do the hogs an injury if allowed to eat all they wish. This mixture will help also to tone the system.

As To Walking.

It strengthens the action of the heart.

It nourishes all the vital organs and tissues.

It feeds the muscles, which are the first portions of the body to decay with approaching age.—*Farmers' and Drovers' Journal.*

been built up, and, if several boxes are used, until more than enough seed to plant a field is ready to be tested.

After the kernels are in the boxes the sand or soil should be thoroughly wet and two or three folds of wet paper or cloth placed over the grains. The boxes should be covered with boards, to prevent the evaporation of moisture, and put in a warm place. Examine the corn after five or six days, and, if more than one kernel in any square has failed to germinate, do not use for planting the ear from which the grains in that square were taken. The corn may be removed now, ear by ear, and tier by tier, and the ears showing low vitality used for feed.

When buying carpets for durability, choose those with small figures.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS Editor-in-chief
PROF. C. J. DILLON Managing Editor
DR. J. D. WALTERS Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, FEBRUARY 17, 1912.

THIS ONE STAYED AT HOME.

The world's applause doesn't amount to so very much, after all, if only a man is big in his own township. It doesn't matter whether his name has never been heard outside the state, or whether he "stands high in the councils of the party"—in fact, little consequence may be attached to anything beyond his own home town or city—if only he has done his level best there; if he has made the most of his abilities; if he has been progressive and considerate and square.

All of which moralizing results from a post-card received, a few days ago, by Prof. Albert Dickens, head of the horticultural department, from F. J. Habiger, an alumnus of '99. If there is one thing, more than another, which justifies the pride of the Kansas Agricultural College in its alumni, it is the extremely large percentage of young men and young women who have entered earnestly and eagerly into lives of usefulness almost immediately after graduation. No dawdling follows the common-sense course of instruction received here. They seem imbued with the "start something" spirit of the institution, and they start at the first chance.

Habiger did this. And has he prospered? He has. He is, to-day, the head of about everything in his township that needs a head. He became administrator of his father's estate—a big farm—and so had to employ, at once, all the business rules he had learned in college. The family was large, several boys and several girls, and it needed a leader after the father's death. Only one son, F. J., had taken to the ways of education beyond the grades. He, in the words of Professor Dickens, "became the patriarch of the tribe." Under his supervision the boys bought teams, rented farms, made payments on lands, rented more farms, and bought more land. The old home place was kept intact, and around it, Professor Dickens says, in a letter describing the family's progress, a settlement grew up. Each of the boys owns farms. Each of the girls had a dowry when she was married. Francis J. continued the head.

"I don't believe one could find a better example of useful citizenship, or a better example for other students," says the horticulturist. "As a member of the school board; president of the Coöperative Grain & Supply Company; administrator of his father's estate, and model farmer, Habiger is worth while emulating."

"His great regret was that the other boys never had the ambition to come down here. They were shy, backward fellows, good friends with the pitch fork, and with unlimited admiration and confidence in the older brother, and they still follow his advice as to crops and cropping."

THE FAMILY INCOME.

(This is the second of several little editorials written by girls in the department of industrial journalism, concerning a subject about which, possibly, every woman in the world is interested. If a woman has had to threaten her husband with a mallet before she could get a dollar away from him, she will be doubly interested in the system here suggested.)

A husband and wife should apportion the family income together; the amount that may be used for the several kinds of expenses should be ascertained, including that for personal expenditures. A definite amount should be set aside for a definite length of time, and the amount expended should not be exceeded.

A woman's spending money should be entirely separate from that of her husband, and her personal account should be in her own name. If this arrangement is not made, it is detrimental to all concerned. A woman loses part of her individual responsibility if she does not know within what amount she must keep her personal expenditures, but merely spends as she pleases. In the majority of cases she will spend more than is proper or necessary; she will be living beyond her means, and her husband is almost sure to become overburdened, and consequently fault-finding.

On the other hand, it will save a wife much embarrassment from constantly asking for money if she has her allowance where she can use it without having to bother her husband about it.

After the income, which rightfully belongs to both husband and wife, has been apportioned to determine the amount to be devoted to the husband's business and the amount for defraying the household expenses, a definite personal allowance should be made for each. Of course, these two amounts may not be equal, but they ought to be fairly estimated, and suited to the requirements of the persons.

There should be a partnership and coöperation about the apportionment of the income, as there is about the earning of it. Each of the two members of the partnership must do a share of the work.

Both should agree that the income is theirs because they earned it, and it behooves them, in using it, to exert their best judgment. But there is such a thing as carrying the partnership idea too far, so a personal individuality must be maintained where personal spending money is to be considered.

M. M.

MENTAL LIMITATIONS.

If you mail a letter addressed to some one in Washington, and neglect to add the "D. C.," it will be returned to you, eight times in ten, with a vicious, stamped slap to the effect that "better address" is required.

A woman living in College Row wrote a note, December 23, to another woman two blocks away. It was a Holiday greeting, and, therefore, of no great importance, which may explain why she entrusted it to the mails. It was addressed, clearly, in English, to the woman's name with the street on which she lived, and ended with the one word "City."

That was the fatal blow: "City." No sooner did the brilliant intellect behind the well-smoothed dome in the post office behold that word than he snatched the letter, gleefully, from the other hundreds and hastened it on the way to Kansas City. Now, ordinarily, one might expect one clear mind in that office to detect the error. Not on your life. Not in five hundred years. Mr. Clerk hastened it to a hotel bearing the name used to designate the street in Manhattan where the addressee lives. The clerk in the hotel might have noticed that the letter was not for his house, but if he had done this he would have been too smart to be a mail clerk in a hotel. Being just a lunkheaded lot of hirsute covering around blank space, he put the letter in with fifty others addressed to guests who had long since moved on, and there it remained for six weeks.

Came a stormy day. The wind and snow were howling. The owner of the hotel—perhaps—lacking anything else to do, looked through the letters and found the poor, little, smudgy greeting that had gone astray two days before Christmas, now sadly soiled with the asinine pencil notations of a lot of sap-headed youths who had deceived the government into giving them jobs.

A Golden Text.

But lay up for yourselves treasures in heaven, where neither moth nor rust doth corrupt, and where thieves do not break through nor steal.
For where your treasure is, there will your heart be, also.
—Matthew 6: 20, 21.

So it came home, a week ago, a dirty, dreary, draggled looking thing. The woman who wrote it might have gone around the world, stayed a week in Paris and another in London; she might have laid over a few days in New York to have a gown made; she might have lingered a while in St. Louis—if she didn't care where she went—and she might then have gotten home ahead of the letter she had given the mails more than six weeks previously—to carry two blocks. It isn't new postmasters that are needed; it's clerks with eyes that see and brains that understand. The imbecility of the average man, Elbert Hubbard says, is appalling.

SURVEYING THE SOIL.

An astonishing amount of work has been reported, recently, by the bureau of soils in the United States Department of Agriculture. The area surveyed and mapped in the last fiscal

year was 95,420 square miles, or 61,068,800 acres. Of this area 25,096 square miles, or 16,061,440 acres, was covered by detailed surveys and 70,324 square miles, or 45,007,360 acres, by reconnaissance surveys. This work was carried on in 60 areas distributed through 21 states. In 11 of these states the field work was conducted in coöperation with state authorities, who contributed, approximately, an equal share with the bureau of soils toward the cost of the work. The bureau of soils, in which every farmer in the nation is concerned, did 25,096 square miles of the detailed soil survey work in the fiscal year, bringing the total detail work of the bureau up to 229,372 square miles. During the same period 70,324 square miles of reconnaissance soil survey work was performed, bringing that feature of the bureau work up to a total of 225,612 square miles.

During the fiscal year soil surveys were made in Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Porto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and reconnaissance work in Kansas, North Dakota, Pennsylvania, South Dakota, Texas, Washington, Wisconsin.

FIRST—GET THE GIRL.

"Forget the dollar mark while you fix the wedding date," an experienced business man advised his daughter one day recently. He had rubbed up against the cost of living, too, and he knew the "all gone" feeling that sets in nowadays around the pocket that carries the purse.

Was he right? You've seen them waiting and waiting long after the neighbors have quit gossiping. She has her "hope" box full; curtains made and packed away; sofa cushions

all done; napkins hemmed, and tablecloths, too. She's embroidered three centerpieces for each table she has ever dreamed of owning; and still she's waiting and wondering if dreams come true, if there will be any wedding bells, or not, and if he is the one, after all. Foolish questions? Yes, and two foolish young persons back of them, you say. And yet this is not unusual. Some years ago 500 bachelors, picked at random, were asked by the *Good Housekeeping* magazine this question: "What income is needed before entering upon matrimony?" The average was \$2439.40 and the favorite figure was \$1500. You can see postponed wedding dates and broken engagements, by the dozens, lurking around those figures. Doesn't it make you feel like going back to the "love in a cracker box" theory?

To be practical, though, to come down into that everyday "Pay here" atmosphere, no young man can safely ask a girl to share his income if he has not formed the habit of saving some of it, whether it be \$600 or \$15,000 per year. From a business standpoint a \$600 man who can save \$200 per year is a safer investment than a \$15,000 man who spends it with no help.

Therefore, young man, if you can save some of your salary, if you are

Culture.

Culture does not try to teach down to the level of inferior classes; it does not try to win them for this or that sect of its own, with ready-made judgments and watchwords. It seeks to do away with classes; to make the best that has been thought and known in the world current everywhere; to make men live in an atmosphere of sweetness and light, where they may use ideas as it uses them itself, freely—nourished and not bound by them.

—Matthew Arnold.

perfectly certain you are in love with a sane, sensible girl who can sacrifice and who will do it; if she can keep house gracefully, by all means ask her at once. If she asks you during 1912, don't refuse, on the salary proposition.

L. B.

HOW NEW YORK DOES THINGS.

It would be difficult to turn out a more finished example of excellent printing than the book just issued by the New York State Agricultural Department and the New York Experiment Station. "The Plums of New York" contains 600 pages, with many colored plates, the whole forming an exceptionally valuable addition to the library. The book is about the size of Bailey's Encyclopedia of Agriculture, and about as heavy. Dr. U. P. Hedrick is the author. With him, as assistants, are R. Wellington, O. M. Taylor, W. H. Alderman, and M. J. Dorsey, all of whom receive credit on the title page. Throughout, the volume serves as a demonstration of how to do things right. But of course you all know what that means.

A Valentine For Him.

The general manager entered the office where thirty clerks were employed. Twenty-nine were putting on their coats and hats preparatory to going out to luncheon. The thirtieth clerk was still working. "Ah, hah!" said the general manager—to himself—"that's the kind of a clerk to have. Ten minutes to twelve, and all have gone except this one." He approached the desk and touched the busy young man on one shoulder. "Young man," he said, kindly, "don't you know it's luncheon time—he didn't say lunch, he knew that was a verb—and you ought to eat? I like to find a clerk who waits until the bell rings before quitting. You shall lunch with me to-day." The young man's face paled. Not stopping to think, a thing he seldom did, he stammered: "I carry my luncheon, and I eat it at 11 o'clock. I'm off at 1 o'clock." The G. M. ground his teeth together and glowered out. "Too late, Watson," he growled. "Get my slippers; there'll be no arrest to-night."

If Burbank Only Would.

O. Luther Burbank, you have crossed the apricot and plum. You've done such wondrous things that we are fairly overcome; Your spineless cactus is superb, your white blackberry, too—However, there is one great work that waits for you to do. Can you by any cunning trick, by any subtle wile, Cross two of last year's bonnets so they'll show as this year's style?

We praise you for the benefit we have of all your toil. For seedless prunes, for olives that are dripping full of oil; We've eaten your potatoes, and your famed pineapple-quince Impress us as something good for any king or prince.

But can't you get up early, or stay up a few hours late And cross last year's old bonnets till they blossom up to date?

A man who can make fruits and things take weird and varied forms. And grow all kinds of plants that can withstand the heat and storms—A man who coaxes roses till they blaze in wondrous hues. Can surely see his mission in the current fashion news. Your fame will race around the world, spread through each hemisphere. If you will coax a last year's hat to be in style this year.

—Chicago Evening Post.

SUNFLOWERS.

The *Erie Sentinel* is making a strong fight for Woodrow Wilson. Still, the governor may lose; it's not all over.

John Preston Campbell, the *Abilene Chronicle* says, "is waking up on paving." What can be the matter with John?

Many a man supposes he'll have a den when he marries. If he gets enough room for his hat and coat he'll do well.

It isn't always easy to contemplate a soiled collar and tie—but there are other collars and ties; and there are so few hugs from boys and girls.

An afternoon at the ball game and a square deal very often have saved a "bad" boy. What many boys miss is understanding—sympathy from their elders.

How it will make Secretary Coburn cringe and gnash his teeth when he sees himself referred to in the *Christian Science Monitor*—if he sees it—as F. L. Coburn!

Gold was discovered, recently, in the crop of a turkey in Winnipeg. The Canadians may brag, but many a Kansas crop has gold in it, if properly managed.

A gifted writer on the *Atchison Globe* intimates, in his daily across-the-page line, that a family of four cannot be supported on ten dollars a week. How does he know?

The boys' choir in a church at Hillsdale, N. J., whistled the hymns, last Sunday, much to the delight of the congregation. However, the pastor's name, it develops, is Bird.

A man in Kansas City, reunited to his wife after a long separation, advertises that he will be responsible for his wife's debts. The next thing, Archibald, is to pay them.

The plot of "A Gentle Jury," unravelled by the "Women of the College Association," leads one to believe that in the future the best looking criminal will stand the best chance of freedom—from jail.

Inquirer.—You ask, "Do meters measure correctly?" The answer depends entirely upon whom you ask. With respect to our own meter, we have opinions not printable in a staid, institutional newspaper.

William.—You are right. Some men are so awkward they couldn't put one arm into a flour barrel without tearing their sleeve. But this is no reason for barking at a waiter when he slips a dish of peas into your lap.

A new food is now to be produced, from petroleum, Robert Kennedy Ouncan says. But what's the use? About the time we've thrown away our bacon and beans the pipes will fail, or the supply will be diverted to St. Joe.

Clara.—You are right. Young women vocalists who insist upon beating time for the pianist should do it with their hands only. If the accompanist was especially atrocious the singer might, also, use her feet—but not to beat time.

A man's past will rise in the most unexpected ways, to confront him in his hour of triumph. There's Clarence Ousley of Fort Worth, Texas; Clarence would succeed Senator J. W. Bailey, and now the papers are saying that he once wrote poetry.

PLAIN DRESS FOR WORK.

BUT A BUSINESS GIRL'S CLOTHES CAN BE PRETTY, THOUGH SIMPLE.

A Neat Shirt Waist With Tailored Suit the Most Suitable—Tailored Hat for Street Wear and a Quiet Style for Dress.

The first and most important requisite of a business girl's clothes is simplicity. Her wardrobe should consist chiefly of strictly tailored garments; even clothes worn at social functions should be plainly made. A business girl should not wear clothes so elaborate as those of other girls.

A girl who has studied dressmaking at the Kansas Agricultural College, and who knows what is correct in girls' wearing apparel, says a plain shirt waist with a tailored suit is the most suitable for a business girl. She should have at least six shirt waists and two tailored skirts. The style of the shirt waists may vary, but they should always be plain, with few frills or trimmings. One or two silk blouses might be used, but washable fabrics are preferable.

WASHABLE FROCKS FOR SUMMER.

In winter, many girls prefer one-piece frocks of woolen material. These are very good, especially for wearing with a full-length coat, although they are not in quite so good taste as the tailored costume, consisting of the shirt waist and tailored suit. In hot weather, plain, washable, one-piece frocks are the most comfortable and convenient.

Evening frocks are planned in the same way as those for business wear. They should be simple, and material may be chosen from a number of suitable and inexpensive fabrics, such as the soft silks, batiste, mull, wool challis, thin muslins, and voiles.

A plain tailored hat is best for wearing to and from work. For dress hats and evening hats quiet styles should be selected. For many business girls, dress hats are not so necessary as the tailored hat.

LEATHER, NOT CLOTH SHOES.

A girl should always have two pairs of good walking shoes for everyday wear. Leather is better than cloth for a business girl's shoes. Dress shoes and evening pumps in good styles are easily chosen.

Underwear, also, should be plain and simple, but dainty. French hand-made lingerie is out of place in a business girl's wardrobe.

In a great many cases the business girl is obliged to be economical in purchasing her clothes. In any case she should be so, and not buy lavishly. She must remember that the clothes will be given hard wear, and she should choose durable materials with colors that will not fade. She should choose quiet colors and styles, rather than bright, flashing colors or uncommon shades with the style according to the latest fad.

It is often a problem to a girl, with as little spare time as a business girl usually has, to take the proper care of her clothes. If they are properly mended, cleaned, and pressed, however, they will last twice as long, and more than repay the time and trouble spent in the care of them. To have a neat, trim appearance should be the aim of every business girl.

ALUMNI NOTES.

The Kansas Society of Chicago had its annual dinner January 29, and enjoyed itself hugely. The alumni of the Kansas State Agricultural College should know of the existence of this society. All those living in Cook county, Illinois, should send their names and addresses to the president, George S. Wood, 133 West Washington street, Chicago. The expense is nominal, the dinners are highly enjoyable, and they give an opportunity to renew old acquaintances. Every former Kansan in Cook county should send in his name and address to President Wood.

THE WASHINGTON ALUMNI.

The eleventh annual reunion and dinner of the Kansas Agricultural

College Alumni Association of Washington, D. C., was held the evening of February 1 at the clubhouse of the Washington Country Club, Jewell Station, Virginia. R. A. Oakley, '03, a member of the club, made the arrangements. The complete change of program proved to be welcome. It is doubtful whether the association ever held a meeting at which everyone present entered into the spirit of the occasion with more zest or got so much enjoyment out of it. At 8 o'clock the dinner began. There were oysters from the Chesapeake, fish from the Potomac, tender fowls, vegetables and fruits from the Virginia plantations, all to the glory of Kansas appetites. Doctor Wiley and his ad-

'Tis good to give a stranger a meal or a night's lodging. 'Tis better to be hospitable to his good meaning and thought and give courage to a companion. We must be as courteous to a man as we are to a picture, which we are willing to give the advantage of a good light.—Emerson.

monitions for a safe and sane diet were for the time being, at least, forgotten. The intermissions between courses were enlivened with the singing of college songs and the telling of stories by those still able to speak.

The after-dinner exercises consisted of an improvised field and track meet with variations, borrowed largely from previous freshman parties at K. S. A. C. Venerable ex-members of the faculty and graduates long past the age of youthful frivolity "toed the mark" in competition with fair "co-eds" and youthful athletes fresh from the college campus. Some of the finishes were side-splitting. In lieu of the regulation hammer throw, various members essayed to drive a given number of nails within a given time, resulting in much joyful noise and a few bruised fingers. Could Uncle "Jim" Wilson have beheld the antics of some of his staid and dignified scientists, he would doubtless have been surprised. Far out on the hills of Virginia, away from the madding crowds, and under the infectious leadership of Gertrude (Lyman) Hall, all superfluous dignity and restraint were laid aside and everybody became a freshman again.

The officers of the Washington association for the coming year are: President, W. L. Hall, '96; first vice-president, Julia R. Pearce, '90; second vice-president, S. C. Mason, '90; secretary, A. B. Gahan, '03; treasurer, Lewis W. Call, '83; assistant secretary, R. A. Oakley, '03.

Others present at the reunion were: Mr. and Mrs. Ernest L. Adams, Mr. and Mrs. Louis Aichers, Walter R. Ballard, Mrs. Lewis W. Call, V. L. Cory, Ralph E. Edwards, Mrs. A. B. Gahan, Mrs. W. L. Hall, Mr. and Mrs. A. L. Halsted, Mr. and Mrs. C. P. Hartley, Mr. and Mrs. A. S. Hitchcock, Mr. and Mrs. C. H. Kyle, Prof. and Mrs. David E. Lantz, Prof. and Mrs. S. C. Mason, Mr. and Mrs. Clyde McKee, Roland McKee, Prof. and Mrs. J. B. S. Norton, Walter Osborne, J. F. Ross, Mr. and Mrs. Nickolas Schmitz, L. B. Strickrott, Eldon Thompson, Frank H. Hitchcock, and Miss Wilson.

Johnston's Reading Liked.

A reading of "The Servant in the House," given by E. P. Johnston, assistant professor in charge of the department of public speaking, was a number on a downtown lecture course February 8. Professor Johnston was greeted by a large crowd, which included many college people. The entertainment was given in the new Baptist church. The interpretation of the play was very pleasing. Professor Johnston's audience listened eagerly through the two acts. Between acts, Mrs. Johnston sang, accompanied with violin and harp by Prof. and Mrs. R. H. Brown, and with the pipe organ by Miss Ada Baum.

SALADS ALL THE YEAR.

JUST THIS REQUIREMENT—HAVE THEM FRESH AND COLD.

Through Olives and Nuts in a Salad the Body Gets Oil in the Most Useful Form—Some Good Recipes.

A salad should constitute a course in the menu, winter and summer. The essential thing is to have it fresh and cold; and, if green, to have the leaves crisp and fresh. Salads are used chiefly as relishes or appetizers with other food, and can be served with the main course or made a course by themselves.

During heat of summer cooling and refreshing foods are enjoyed. The thought of anything rich and heavy is disagreeable. This is a natural impulse because of the heat-producing properties of oils and because during the summer fresh fruits afford the laxative properties for which the oil is so valuable. In cool weather the system will begin to call again for fat-producing elements. And it will suffer if deprived of them, for it is certain that the human machinery, as well as any other, requires oil to keep it running smoothly.

THEY LEARN IT HERE.

But you can't pour oil into humans as you do a machine. You must take nuts and olives—in which oil is found in its most assimilable condition—add some fruit, some dressing, and a few other ingredients, and you have a delicious salad. That's the way to give oil to persons. And the girls who study cookery at the Kansas Agricultural College learn to do it most daintily.

The food materials of plants used are lettuce, celery, cucumber, cabbage, watercress, peppergrass, and dandelion. In fact, nearly all garden vegetables may be used; fruits or meats may be used in combination with the vegetables. They are always served with a dressing. This may be added before it is put on the table or dressed at the table. Sprinkle with salt and pepper, then add oil and vinegar lastly. If vinegar is added before the oil, the greens become wet. Oil will not cling, but settles to the bottom of the dish.

Here are some of the old and tried recipes:

WALDORF SALAD.

1 c. diced apple
1 c. chopped celery
1/2 c. Malaga grapes

Halve the grapes, mix with the celery and the apple, place on a clean lettuce leaf, and add the dressing. Garnish as preferred. An attractive way of serving this salad is to remove the tops from nicely colored apples, scoop out the inside pulp, leaving just enough adhering to the skin to keep it in shape. Refill the shells with the apple and celery mixture, add the dressing, and garnish as desired. Serve on a lettuce leaf. The chopped apple and the shells may be moistened with lemon juice to prevent discoloring.

RED BEAN SALAD.

1/2 c. red kidney beans, cooked
1/2 sweet pickle, chopped fine
1 tsp. chopped celery
Dash of tobacco sauce
Dash of Worcestershire sauce

Mix ingredients and serve with Mayonnaise dressing.

SALMON SALAD.

2 eggs
1/2 c. vinegar
1 tsp. salt
1 tsp. sugar
3 or 4 stocks chopped celery

Beat the eggs, stir in vinegar, add salt, sugar, pepper, mustard, and flour. Cook until thickened. Pour over salmon and add chopped celery.

MAYONNAISE DRESSING.

1 tsp. mustard
1 tsp. salt
1 tsp. powdered sugar
Few grains cayenne
Yolk 2 eggs
2 tsp. lemon juice
2 tsp. vinegar
1/2 c. olive oil

Mix dry ingredients, add egg yolks, and when well mixed add 1/2 tsp. of vinegar. Add oil gradually, at first drop by drop, and stir constantly. As mixture thickens, thin with vinegar or lemon juice. Add oil and vinegar, or lemon juice, alternately until all is used, stirring or beating con-

stantly. If oil is added too rapidly dressing will have a curdled appearance. Olive oil for making mayonnaise should always be thoroughly chilled. It should be stiff enough to hold its shape. It soon liquefies when added to meat or vegetables, therefore it should be added just before serving.

FRENCH DRESSING.

1/2 tsp. salt
1/2 tsp. pepper
2 tbsp. vinegar
4 tbsp. olive oil

Mix ingredients and stir until well blended. French Dressing is more easily prepared and largely used than any other dressing.

WHIPPED CREAM DRESSING.

1/2 c. boiling vinegar
1 tsp. butter
3 egg yolks
Spk. cayenne
1/2 tsp. salt
2 tsp. sugar
1/2 tsp. mustard
1/2 c. heavy cream

Beat egg yolks until thick and lemon colored. Add sugar, salt, mustard, and cayenne. Pour gradually over this mixture the hot vinegar in which the butter has been melted. Cook in double boiler until it thickens, stirring constantly. Cool and fold in heavy cream beaten until stiff.

Heavy salads should be served with light meals and light salads with heavy meals. Mayonnaise for fruit salad should not contain any mustard. Cooked dressing is improved by adding a little Mayonnaise.

PRUNE GRAPES IN FEBRUARY.

Cut Out the Dead Canes and Superfluous Growth of Shoots.

Increase the production of the grape vineyard one-half by proper pruning. Prune at the right time—February in this state—and in the proper manner, and watch the great increase and better quality produced in the following crop.

Remember that the fruit is borne upon the shoots which grow from buds formed the previous season. The one-year-old canes are the bearing wood. In pruning, the old wood must be cut fairly low or short, as the root cannot support, successfully, too many bearing branches. There is little difference in the various styles of pruning. The number of one-year-old canes left varies somewhat.

In the fan system, which is a wire fence trellis, a minimum of old wood is retained, according to Albert Dickens of the Kansas Agricultural College. Four to six canes, four feet long, will produce the following year, each, about four laterals. These laterals will produce two clusters of grapes, each, on the average. With a fair proportion of these clusters the yield per vine may often reach fifteen to twenty pounds of fine quality fruit.

FOR THE ALUMNI.

Local Organizations Should Report the Names of Their Officers.

The local organizations of the alumni are requested to report the names of their officers to Ed. H. Webster, chairman of the board of the general association.

Attention is also called to the necessity of each local organization naming one member of the alumni board. Where officers have been elected and such member has not been among the number, the executive committee should make such selection and report at once.

Library Gets Portrait of Harris.

In addition to the bronze bust of William A. Harris, the college has received a portrait of him. The portrait, which is a gift from his son, will be hung in Fairchild Hall—the library.

A nearly complete set of the American Shorthorn Herd books, supplementing a previous gift of 114 volumes, has been received from the ex-senator's library. Mr. Harris' gifts to the college library now number 161 volumes.

Grandma's Doughnuts.—One cupful of sugar, one cupful of warm mashed potatoes, three cupfuls of flour, one-half cupful of milk, one egg, one teaspoonful of butter, one-fourth teaspoonful of salt, three teaspoonfuls of baking powder, one-fourth teaspoonful of ginger, one teaspoonful of nutmeg; roll rather thin, cut, fry, then dust with powdered sugar.

GIRLS CAN READ METERS

A CLASS IS LEARNING THINGS ABOUT ELECTRICITY THIS TERM.

These Young Women Are Taught to Use Electrical Appliances—Motors, Fireless Cookers, Toasters, Water Bottles, and Fireplaces.

If the girls graduating from the Kansas Agricultural College in the future are cheated by dishonest readers of watt-meters, or if they are the owners, some day, of electrical devices that won't work, it will not be because they have not had a chance to know about such things. The physics department is teaching them a lot of things about electricity this term. Many interesting appliances are found in that department, all of which are explained and demonstrated, but especially those intended for household use.

A REAL FIRELESS COOKER.

They have, for instance, a fireless cooker that really is fireless. The iron plate, or disc, is never put near the fire. The food to be cooked is put in the vessel, the lid is put on, and the heat-retaining apparatus is placed about it. The current is turned on until the plate becomes heated, and the cooker does the work. This saves the trouble of handling the heavy disc when it is hot. The whole affair is compact and takes very little room. The plugs and all attachments slip together, and there is little to get out of order.

There are ovens and heaters all operated with electricity. One of the heaters is an imitation of a fireplace, and it resembles one when placed in a corner of a room. The long coils of wire are in glass globes, giving an artistic appearance. This heater was used by some of the experimenters during the recent cold spell, and with much satisfaction.

ELECTRIC WATER BOTTLES!

The ovens resemble a camp oven or one used on gasoline stoves, but the heat is more easily regulated, and they are much more convenient to have about. A toaster prepares the bread, and there are hot water bottles that require no water or heat other than that furnished by the current; motors for running the washer and the sewing machine; there are several types of electric irons, and almost everything electrical that can be used in a home.

TO STUDY SERUMS IN EUROPE.

Dr. Schoenleber Has a Leave of Absence for That Purpose.

A leave of absence for a part of next summer has been granted Dr. F. S. Schoenleber, professor of veterinary medicine at the Kansas Agricultural College, by the board of regents. Doctor Schoenleber will go to Europe on an inspection tour of serum plants. He will spend most of his time in Germany, where more progress in the use of serums has been made than in any other country.

Serums for the prevention of black-leg in cattle, fistula in horses, and cholera in hogs, now are made and sent out by the agricultural college. Doctor Schoenleber hopes to find serums which may be valuable in combating other diseases common to Kansas live stock. He will visit the Royal Veterinary College at Hanover, Germany, which is considered one of the best in Europe. He probably will be gone six weeks.

Marketing Hints.

Aim to allow one-half pound of meat for each person. The fat should be firm, but if hard and skinny it indicates that the animal was old and tough; if thin, from a scrawny animal.

Beef or mutton should be a deep rose color, and the fat a rich cream. The choicest cuts for roasting are the sixth, seventh and eighth ribs, the sirloin and porterhouse cuts. Sirloin and short cut porterhouse steaks are best, although many prefer the pin-bone steak.

When selecting poultry see that the feet are soft and moist, the eyes clear, and the flesh plump.—*Philadelphia Times.*

WHEN G. W. ADVERTISED

THE COUNTRY'S FIRST PRESIDENT
KNEW HOW TO LEASE HIS LANDS.

An Old Newspaper Shows, Also, that
George Forgot His Hatchet When He
Described His Holdings—
Who Was "Lund?"

They believed in advertising in George Washington's day. Not only was the first president a leader in starting things and in keeping something going on; he was everlastingly a hustler, and he knew just how to write so that the people would read what he wanted to be hustling for at that particular date.

There was the time George—affectionately referred to by his first name—had twenty thousand acres somewhere along the Ohio and the Kanhawa rivers, and wanted to lease it to uninformed and unsuspecting travelers. What did he do about it? Get a lot of handbills printed and fust on the streets and the campus with them?

WHAT GEORGE DID.

Not George Washington. No, sir—ee! George put on his switch and his straw hat and went right over to the editor of the *Maryland Journal and Baltimore Advertiser*—imagine a newsboy yelling that—and handed in a little "ad" he had prepared that beautiful August morning, before breakfast; put his money where it was needed, where it would do the most good. The editor was so busy, preparing a statement to the public—it was the first issue of the paper—that he neglected to write a local about George paying for the "ad," so the world will never know how he chanced to be in Baltimore that day. And the world might never have known about the visit if some one hadn't kept a copy of the curious, old paper and "handed it down." W. C. Calvert of Kansas City, a student, gave it to the library of the Kansas Agricultural College a few days ago, framed.

WASN'T HE THE TALKER?

With respect to describing land in a convincing and charming manner, George Washington had the Everglades crowd, in Florida, lashed to the mast. "As these lands are among the first surveyed in that part of the country," he says, with a real estate dealer's usual disregard for logic, "it is needless to premise that none can exceed them in luxuriance of soil or convenience of situation; lying along the Ohio or the Kanhawa rivers, abounding with fine fish, and wild fowl of various kinds. There are, also, the most excellent meadows, many of which—by the bountiful hand of nature—are almost fit for the scythe."

And so on, for two-thirds of a column, 8-point Roman, 26 picas, leaded, next to reading matter. This "ad" Washington dated at Mount Vernon, July 15, 1773. Doubtless he had given much thought to his land projects, and, also, doubtless he had decided against selling. He was eager to lease for short terms. "Any persons inclinable to settle on these lands," he said, "may be more fully informed of the terms by applying to the subscriber, near Alexandria, or to Mr. Lund Washington."

AND WHO WAS LUND?

It would be interesting to know if George, or Lund, leased the lands, and who now owns them. Lund, by the way, seems to have sneaked through without attracting the attention of historians to any alarming extent.

The *Journal and Advertiser* probably ran for a very short time. It is not mentioned in Hudson's History of Journalism in the United States, and the name is not found in lists of papers printed at that time, in that part of the country, and now in possession of historical societies. Mr. Calvert's family has had the paper for many years, and it is declared to have come down through the years a carefully cared for treasure.

One paragraph, written by William Goddard, the editor, in his statement of purposes, is especially interesting. "I am resolved," he declared, "that

my paper shall be free and of no party. And as agriculture and every branch of husbandry ought, in this country, to be a primary object of attention, * * * I shall always be careful to find a place in my paper for whatever may be sent me that is fresh and new on such subjects.

"Having entered upon a very arduous and expensive undertaking," Editor Goddard continues, weeping copiously, "I must now earnestly entreat the immediate assistance of every subscriber in advancing the entrance money agreeable to contract, etc."

The whole paper, with its George Ade capitalization, its unconstitutional make-up, its strange, quaint ex-

High School Journalists Now.

They just cannot wait for college days, down at Muskogee, to get their journalism. They have to have it in high school—it's there, too—and the whole town is worked up over the stuff the boys and girls are writing. The queerest thing about it—for the highbinders who try to preserve the alleged mysteries of the profession—is the exceptionally good English used. Of course, the editors of the *Times-Democrat* may have fixed up the copy a teeny bit—our experience with high school copy in other cities leads us to this belief—but at any rate the stories were just as good reading as anything in the paper, and that's not a knock.

The disturbing factor is here: Where will this denatured journalism cease to begin—if you can figure that out? Will it go back, down through the grades, and assail the kindergarten? Perhaps there's a little fairy in your home who may go out singing and capering, some bright morning, only to come back at night a *journalist*! At one-half the educational speed we are now using it will not be ten years before the whining infants that sprawl about the porches on summer days will wait for their *Morning Star*, or the *Emporia Gazette*, and, in the words of the advertiser, will take no substitute. A fine time we have come into, indeed, with our journalism.

More seriously, however, let it be recorded that the Muskogee high school has done well, and so has the *Times-Democrat*. The beauty of the scheme lies in the startling and extremely interesting fact that these high school boys will know, when they come to college, whether they really want to take journalism. Moreover, their experience will have shown them whether they are fitted for the business, something that few students know under two years. It would be a fine thing if Kansas high schools adopted the Muskogee idea.

pressions, its curious advertisements, is an object of much interest. The librarian, A. B. Smith, has generously permitted the old paper to be hung in the local room in the department of industrial journalism, in Kedzie Hall.

Gold Increases.

Increases in output of gold are indicated by early figures published by the director of the mint as follows: Idaho, \$133,361; Nevada, \$94,878; New Mexico, \$162,697; South Dakota, \$2,050,167; and Utah, \$397,047. Decreases are estimated of \$268,824 in Alaska, \$458,410 in Arizona, \$130,413 in California, \$1,372,640 in Colorado, \$550,560 in Montana, \$82,165 in Oregon, and \$301,463 in Washington.

CORK WILL GROW IN U. S.

WALTER T. SWINGLE RETURNS FROM
SPAIN WITH THAT IDEA.

The Government Explorer, a Kansas Man,
Has Just Completed Another Transcontinental Tour—Thinks Cork Oak
Would Grow in California.

On his most recent transcontinental search for plants which might be valuable in the United States, Walter T. Swingle, an alumnus of the Kansas Agricultural College, class of 1884, found a species of cork oak in Spain which he believes can be profitably grown in California. Mr. Swingle is an expert with the United States Department of Agriculture, bearing the title, "physiologist in charge of plant life history investigations." He has won considerable fame by his discoveries, but he is remembered chiefly as the explorer who found some bugs in Italy a few years ago whose progeny now are making millions of dollars for California, annually. It was a species of bugs that would fertilize fig blossoms. His discovery made California a great fig-producing state.

VISITED SPAIN AND ALGERS.

Secretary Wilson has received a report from Mr. Swingle through Doctor Galloway, chief of the Bureau of Plant Industry, with regards to a trip of inspection on agricultural conditions in Spain and Algiers. The trip was made with the idea of comparing the agricultural conditions there with those of the United States. Among other things the report states that the cork oak intensively grown in Spain could be profitably grown in the United States.

"I am confident," Mr. Swingle says, "we could grow cork in many parts of the United States by selecting extra good trees for a propagating purpose. In particular I am confident that in many parts of California cork oak of selected varieties could be grafted on the native oaks found there. I have seen black oak grafted on white at Chico, Cal., and cork oak is much more closely related to the California oak than is any black oak."

RECOMMENDS STUDY OF OLIVES.

At Sevilla, the report adds, an inspection of one of the largest green-olive pickling establishments was made. The olives are soaked in lye, and then washed thoroughly. On sampling some of the olives an acid taste was discovered which resulted from natural fermentation through the curing processes.

"I am convinced," the writer continues, "that a scientific study of olive fermentation would yield results of the highest value."

At Alcazar a remarkable, large seedling date was discovered, an offshoot of which would be worth a thousand dollars in California.

CO-OPERATION THE BIG THING.

It's One of the Farmers' Greatest Possibilities, Waters Says.

Agriculture was never of so much importance as it is to-day. And co-operation among farmers offers one of the greatest possibilities of agriculture to-day. Co-operation will give the farmers that which they rightly earn. Denmark has increased the well-being of its people wonderfully by co-operation. It can be done in this country.

President Waters, addressing the Agricultural Association—a student organization—last Monday, said these and other pointed things. His subject was, "The Importance of the Farmer."

In the last 50 years, the president said, the food supply has been doubled. But the yield of every acre has not been increased proportionally. The goal should be to obtain the highest yield possible for every acre without making peasants of farm men and women.

A most deplorable accident happened this afternoon, when an auto struck Thelma, a little daughter of Mrs. Nellie Gregory, the little girl sustaining right serious injury.

Later.—We learn the child is not considered seriously injured.—*Goliad (Texas) Advance*.

HERE'S A CHANCE For the Teachers

Know about the Spring Term?
TWELVE WEEKS

A time to learn **March 22 to June 13** A time to study

Not long ago a school-teacher supposed she knew everything worth knowing—after a few years. She knows better now. The law changes things so radically, with such short notice. There was the statute about teachers taking an examination in elementary agriculture! Whoever supposed teaching would come to that? But it did. And here you are confronting the situation.

The Kansas State Agricultural College Was Ready for the Law

Not only did it turn out adequate text books for the teachers and pupils; it provided special spring and summer terms for them. Isn't that almost doing the duty before it was due?

Here's A Special Course for the Teachers:

SPRING TERM:

Agriculture	History
Home economics	Mathematics
Manual training	German
Education	Chemistry
English	Physics
Botany	Zoology
	Entomology

SUMMER TERM—Six Weeks:

Sixty-Five Special Courses for Teachers in:

Agriculture	Home economics	Manual training
History	English	Mathematics
Education and Sciences		

SEND FOR CATALOGUE

Henry Jackson Waters, President,
Box Q, Manhattan, Kansas

FIRST AID TO A HORSE.

SPRAINS AND CUTS SHOULD BE CARED
FOR PROMPTLY.

If An Open Cut Is Allowed to Go Without
Attention, Lockjaw May Result
—Here is a Simple Treatment for Sprains.

Many sprains and accidental cuts are received by horses in the winter. This is the toll of sliding and slipping on the frozen ground and the icy pavements. A simple treatment for a sprain, says Dr. F. S. Schoenleber, state veterinarian at the Kansas Agricultural College, is to bathe the injured part in warm water for 15 to 20 minutes. Rub until dry. Keep a pressure on the part during the process. The rubbing and massaging should be around the joints, and not upon the bony projections. The nerves and vessels are in the hollows and depressions. They need the attention.

CLEAN THE CUTS.

Continue the bathing for two days. Use a good liniment, but not too much. Knead the sprained joint or tendon several times a day, and bandage tightly. The kneading process reduces the inflammation by stimulating the nerves and vessels.

A cut should be cleaned thoroughly. No matter how slight the injury may seem, it shouldn't be neglected, especially during the inclement weather. It is just such little things that cause tetanus—scientific name for lockjaw.

If a horse has a cut near a hoof, pus often burrows down underneath

the hoof, and causes much trouble. Many of the chronic conditions resulting from cuts may be avoided if proper attention is given the injury. The treatment for such a case is to soak the foot, if possible, in an antiseptic solution for 10 to 15 minutes several times a day. Otherwise bathe the affected part with the solution. Dry thoroughly, immediately following the bath. A good antiseptic to use is a two to four per cent solution of creolin, or any of the coal tar distillates, and water. Carbolic acid is a good antiseptic, but it doesn't mix well with water.

A SIMPLE REMEDY.

Another thing neglected in the care of horses in the winter is the feed and water. This causes indigestion and impactions of the bowels. It may be prevented easier than cured.

A heaping tablespoon of sulphate of soda in the feed once a day will help correct the indigestion, and prevent impactions of the bowels. Trouble is ahead for the horse used to considerable exercise that is put in a barn and not given any exercise. The salts will keep the blood in good condition.

Livery horses are never sick unless overdriven. Why is this? The feeding methods practiced by the liveryman, and the exercise the horses get, is the secret. A livery horse is fed a certain amount of feed regularly, is watered regularly, and curried regularly. A good brushing is received as kindly by a horse as a bath by a man.

Never bite thread with the teeth. It injures the enamel.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, February 24, 1912

Number 18

MADE THEIR OWN HATS.

SENIOR GIRLS CUT EASTER BONNET BILLS IN HALF.

A Millinery Expert from Marshall Field's Taught the Class—The Very Latest Styles, from Wire Frames to Trimming, Were Made.

If some one should tell you that you could get a delightfully becoming new \$20 Easter bonnet for \$8.99, it would seem too good to be true; now, wouldn't it? And yet that is just what some clever senior girls at the Kansas State Agricultural College have actually done.

How did they manage it? Why, they took a course in millinery at the college; the real thing, you know, taught by the head trimmer of one of Chicago's leading millinery establishments; and they made their own hats.

The hats were on display in the reception rooms of the Domestic Science and Art building all day Wednesday—leap year Valentine's day, by the way—and wouldn't an Easter bonnet bill, reduced more than half, be a valentine that would go straight to any man's heart? Anyway, they say the marriage rate of alumni of the Kansas Agricultural College is higher than that of any other college in the whole country.

FIFTY HATS THERE.

There were more than fifty hats at this opening—large hats, small hats, straw hats, and little frilly lace bonnets, hats with gay flowers, and hats with smart tailored bows; hats for the girl who wishes something serviceable for wear on the farm this summer, and hats for girls who will go to gay summer resorts. They weren't just ordinary hats, either. Every one was a creation and in the best of the spring styles. There were bows copied from hats brought direct from Paris. Miss Antonetta Becker, professor of domestic art, and Miss Flora Cowell, the instructor in millinery—an expert from Marshall Field's, Chicago—welcomed scores of visitors and explained the course to them.

In one part of the course the girls practice making and wiring all sorts and styles of bows, using paper cambric for silk or ribbon. They also learn how to make wire frames; how to steam velvet; and how to make over last season's hats.

"I think the course is just splendid," said the pretty, dark-haired senior girl who acted as model during the display. "I have two hats that would have cost me nearly \$30 at a shop, and I got the two for just \$13.05."

This is what her hats cost:

STREET HAT.

2 bunches braid.....	\$2.00
Wire frame.....	.60
1 yard mullin (to cover frame under braid).....	.13
Wire.....	.35
Lining.....	.09
Satin for bows—two kinds.....	2.08
Total.....	5.05

DRESS HAT.

Frame.....	\$3.35
12 yards ribbon.....	1.30
4 bunches flowers.....	3.25
Lining and wire.....	.10
Total.....	\$8.00

"The girls have done all the work on their hats themselves," said Miss Cowell. "I have not taken a dozen stitches on any hat. None of the girls ever worked on a hat before she took the course, but in six weeks they have made hats more difficult than we expect of an apprentice who has worked three years in our shop."

According to Miss Becker and Miss Cowell, any girl with ordinary intelligence who has had some experience in sewing can learn to make her own hats in a very short time. And think of the saving.

Asbestos Can Be Fine Spun.

The earliest use of asbestos was for spinning and weaving, to make combustible thread and yarn rope and

cloth, and this has continued to be the most important use of asbestos ever since the days of the Greeks and Romans. Only the best grades can be used for this purpose, according to J. S. Diller, of the United States Geological Survey. Thread can now be spun so fine that it will run about 32,000 feet to the pound.

A HORSE TO 30 ACRES.

You'll Lose Money With More Than That, Professor Jardine Says.

"You will lose money if you have more than one work horse for every thirty acres," said William M. Jardine, professor of agronomy at the Kansas State Agricultural College, recently. "If the farm is run right, four horses are sufficient to handle a quarter-section."

It is generally conceded by those experienced in farming that the bigger the horse the better. Draft horses should be bred up in size as much as possible. It costs very little more to keep large horses than it does to keep small ones, and they accomplish so much more that they are very profitable. A draft horse should weigh at least 1700 pounds, but is of more value if about 2000 pounds or over.

Two of these work horses should be brood mares. They should be with foal during the light working season when the other two can do the work. In a very short time the colts can take care of themselves and the mares may be worked with the others.

"A horse loses 10 per cent of its original value each year," Professor Jardine said. "Ten years is the average period of usefulness of the draft horse, depending, of course, on the quality of the horse, the kind of work done, and the care taken of it."

It is well to keep an extra driving horse for family use, since work often will be delayed while some member of the family drives a work horse to town.

HARRIS COLLECTION IS GROWING.

A Further Bequest Just Received from the American Short Horn Breeders.

A letter has been received by President Waters from Page Harris, son of the late Senator W. A. Harris, telling him of a further gift to the college library. "John W. Groves has notified me," Mr. Harris wrote, "that the American Short Horn Breeders' Association, of which he is secretary, has shipped volumes 34 to 76, inclusive, of the American Short Horn Herd Books to the Kansas Agricultural College as a bequest from my father."

President Waters has written to Mr. Harris, and to the widow, Mrs. W. A. Harris of Lawrence, thanking them for the books. The volumes will become a part of the W. A. Harris Collection, started several years ago by Senator Harris.

FEBRUARY NOT COLDEST MONTH.

But Lincoln's Birthday, 1899, Was Cold—32 Below at the College.

Is February usually the coldest month? It might be interesting to glance back over the temperature records of this month, and see whether it has a habit of "acting up." The physics department of the Kansas Agricultural College has kept accurate records of the daily temperatures registered by the college thermometer since 1858. In the list of lowest temperatures for February, there is not very much to the discredit of this month. Thirty-two degrees below zero on the 12th, in 1899, is the lowest temperature for the month recorded at the college since 1858. Very seldom has it gone that low. However, an average for the years would place the lowest temperature for February at about one degree below zero.

HOME-GROWN SEED BEST.

GRAIN FROM OUTSIDE INJURED BY CHANGE OF ENVIRONMENT.

On Thirty-three Demonstration Farms Conducted by the Agricultural College the Local Seed Corn Made Better Yields Than Imported Varieties.

"Changing a grain from one environment to another is of no benefit to it, but, on the contrary, temporarily decreases its producing capacity," says C. C. Cunningham, assistant in farm demonstration work at the Kansas Agricultural College. "This is contrary to the general belief of many farmers of Kansas, but it has been proved by the college."

"The superiority of the home-grown seed over that introduced from other localities," said Mr. Cunningham, "is due to the fact that the local strain of the variety has become adapted to the soil and climatic conditions under which it is grown. This process of adaptation is a gradual one and goes on slowly but surely every year. The longer a variety is grown in a locality the better suited it becomes to growing in that environment. When new seed of the same source is obtained and grown under comparative conditions with the adapted strain it is at a disadvantage in that it has not yet had the opportunity to adjust itself to the new conditions. The result is that the greater yields are obtained from home-grown seed."

MADE 33 TESTS.

"During the last three years, thirty-three variety tests of corn were conducted by farmers in various parts of Kansas in cooperation with the Kansas Agricultural College. Five standard varieties—Kansas Sunflower, Hildreth Yellow Dent, Reid's Yellow Dent, Boone County White, and Commercial White—were furnished to these farmers and were grown in comparison with local-grown varieties. In nearly every case the local varieties made the best yields, and the more unfavorable the conditions were for growing corn the greater the difference in favor of the local varieties."

"The Kansas Sunflower proved to be the best yielder of the five varieties supplied. It produced an average yield of 31.8 bushels an acre. The best local varieties averaged thirty-seven bushels an acre. In 1909 one farmer conducted a test with the five standard varieties and three local varieties. The standard varieties averaged 57.6 bushels to the acre, while the local varieties averaged 64.6 bushels to the acre."

AN AVERAGE OF 19 BUSHELS.

"Another farmer of Kingman county obtained yields of twenty-four and thirty bushels from two of his home-grown varieties, while the imported varieties, grown under the same conditions, averaged 19.8 bushels to the acre. Home-grown Kansas Sunflower yielded 2.5 more bushels to the acre, in this test, than corn of the same variety obtained from the agricultural college. Results from different parts of the state showed that the local-grown varieties outyielded strains of the same varieties, obtained from other sections of the state, from three to twelve bushels to the acre, or an average of seven bushels for all tests similar to these."

CHANCES FOR THE BOYS.

Government Jobs Are Ready for Those That Can Do the Work.

Chances for students are offered in the announcement, this week, of the Civil Service Commission calling attention to the regular spring examinations, April 10-11, for positions in the U. S. Department of Agriculture. Examinations will be given in the following subjects: Agronomy, dairying, entomology, farm management,

forage crops, horticulture, library science, physiology and nutrition of man, plant breeding, plant pathology, pomology, seed testing, soil surveying, soil bacteriology, and animal husbandry. Persons interested are invited to communicate with the Civil Service Commission, Washington, D. C. Full information regarding opportunities in the service, scope of examinations, salaries, etc., will be furnished.

WHY THE BREAD IS BAD.

Maybe the Flour Was Made From Sprouted Wheat.

There are several causes for "poor luck" in bread-making. It may be due to poor flour or yeast, temperature before or during baking, or to improper care, say bread experts at the Kansas Agricultural College.

If the wheat has been allowed to sprout or mildew before being made into flour, the bread will not be good. Flour from sprouted wheat does not contain enough gluten. This causes the bread to have a coarse look, with large air spaces. Good bread should have many small, even air spaces. If the flour is from mildewed wheat, the bread soon becomes musty. Good flour is shown by its creamy-yellow color. Or take a handful of flour and squeeze it. If the flour retains the print of the fingers, it is good bread flour.

Sour bread is caused by weak yeast or by foreign bacteria in the yeast.

Bread dough should be kept at a temperature between 75 and 80 degrees F., while rising, to obtain the best results. When double its bulk, it should be put in the oven. If the oven is not hot enough, the bread rises too much. When too hot, a crust forms on the bread too soon. This frequently prevents the center of the loaf from being well baked. The yeast-plants, not being destroyed, produce fermentation here.

The oven should be about 280 degrees F. when the bread is put in. The bread should remain in the oven from forty-five to sixty minutes when in single pans.

After baking, the bread should be laid on a rack until thoroughly cooled. Keep in a dry, tin box.

Where two or more loaves are baked in one pan, the loaves do not have a good crust. They dry out much more quickly.

BE FRIENDLY WITH COLTS.

Then You Won't Have so Much Trouble in Breaking Them.

Many good horses are spoiled when colts, by improper training. They may have been teased by children, whereupon they developed a mean disposition.

To make a colt easy to break, you should make friends with it. Gain its confidence by feeding it from your hand, petting, and currying. A colt is nearly half broken when you can catch it anywhere.

The colt should first be halterbroke. At first you will need the assistance of a driver, but he should be dispensed with as soon as possible.

A good way to halterbreak a colt is alongside a horse. The rider can act as leader and driver. Some persons tie the colt to the harness of the work horse or trotter. This not only teaches the colt to lead, but also shows it its place. When the harness is to be put on it should be done very gently, letting the colt become used to it. Then drive it, using short lines. When the colt is old enough to do light work give it a few lessons with the wagon, plow, harrow or any two-horse implement, always beside a well-broken horse to act as teacher.

The emancipation of the individual is always accompanied by a deepening of the content (meaning) of personal life.

AND ALL THIS IS FREE.

FARMERS SHOULD FILE THEIR NAMES EARLY IF THEY NEED ADVICE.

A Little Band of Willing Workers from the Extension Department Will Be Ready for Calls After March 1.

The farmers who need special advice and help from the State Agricultural College would better file their applications. Experts in several lines, now lecturing in the farmers' institutes, will be at liberty March 1. These men have, for years, filled the office of advisors, just as some persons are suggesting now to have county farmers. C. V. Holsinger will be investigating orchard conditions after March 1 wherever he is needed. Many orchards are worthless and the owners do not know why. Meetings will be called of orchardists in many communities, and in these trimming and pruning of trees will be discussed.

TRUCK GARDENING, TOO.

Orchard owners should file requests, also, for spraying advice and assistance. Mr. Holsinger will be giving demonstrations wherever needed and deemed best. He will be helpful throughout the state in giving advice about truck gardening, calling meetings of truck growers around cities or towns and in organizing them for improvement in growing methods, and selling systems. The same help will be given, of course, in organizing fruit growers' associations.

George S. Hine will be at liberty after March 1 and into August to supervise the building of cement silos and to hold silo meetings throughout the state. He will inspect dairy herds, also, on invitation, and will give special attention to advice about dairy records and the building up of dairy herds. Preference will be given, this season, to western Kansas in the silo work.

P. E. Crabtree is a specialist in farm management. After March 1 he will be at liberty. Many calls are awaiting his attention, for Mr. Crabtree is much in demand in Kansas. He is a successful farmer, and every man heeding his advice has found it valuable. Apparently the farmers like to talk with him. Particularly in the eastern part of Kansas is he popular. On many of the farms in that section his annual visit has been looked forward to eagerly for years. Usually there are 50 or 75 calls in the college for Mr. Crabtree from men who have five or ten acres which they desire to use in some sort of contest and about which they need special advice.

CONN AND THE BOYS.

In Anderson county there are five farms over which Mr. Crabtree has exercised almost constant direction. In several counties there are three or four whose owners depend very largely upon his help.

George C. Wheeler will assist in silo work this summer, but most of his time will be used in visiting counties where live-stock interests are organizing cooperative breeding, buying and selling associations. He will visit many of the leading feeders, and advise with them as to rations.

G. W. Conn, superintendent of farmers' institutes, is to have boys' corn institutes, or meetings, this summer in cooperation with county superintendents. Mr. Conn has been especially successful in boys' work in the East, and probably will try out some ideas in this connection that have proved satisfactory in the past.

When grease is spilled on the kitchen floor or table pour cold water over it at once. This hardens the grease before it can sink in, and much of it can be scraped off.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS Editor-in-chief
PROF. C. J. DILLON Managing Editor
DR. J. D. WALTERS Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, FEBRUARY 24, 1912.

SELFISHNESS, THAT'S ALL.

[This is the viewpoint of a senior girl student in industrial journalism. It is fresh and original and good to read.—Editors.]

It seems to be commonly accepted to-day that college-trained young men should not marry before their yearly income has passed into the four-figure column.

Marrying is regarded as an expensive and hazardous undertaking by many persons other than the young bridegroom who ruefully remarked that "getting married broke a five dollar bill all to smash."

And yet, the question as to how large a salary a young man should receive before he "commits matrimony" is one that cannot be answered offhand. A young couple in a small town could live well on an income pitifully inadequate to meet the demands of life in a large city. A man who can start a savings account on a salary of fifteen dollars a week can better afford a venture into matrimony than one who receives fifty dollars and is "broke" before pay day.

That modern bogey, the high cost of living, is not so much responsible for the growing tendency to delay marriage as is plain old-fashioned selfishness, and inability to distinguish between essentials and non-essentials.

Thirty cents a day will provide one person with wholesome, palatable food. This would make food for two persons for a week cost a trifle less than five dollars. Clothing, shelter and running expenses depend almost entirely upon the individual standard of comfort and the amount of work one is willing to do oneself. They may be kept within ten dollars a week, or they may rise to enormous amounts.

There is, after all, a bit of truth hidden in the joking remark some men make, to-day, that they are not willing to marry until they find a girl capable of supporting them in the manner to which they have been accustomed. Men and women are prone to despise the day of small things when it comes to starting a home. They want everything at once—velvet rugs, mission furniture, sterling silver, Cluny lace, and cut glass—without leaving anything to look forward to. They are unwilling to work and wait and make sacrifices.

Yet, after all, solid silver spoons are much brighter if one has used plated ware first, and the pleasures most enjoyed are the ones earned by hard effort, or by denial in some other way. Remember how Charles Lamb, in one of the Elia Essays, discourses in his whimsically charming way of the added delights of the theatre when one sits far back in the third balcony in seats that cost a month's savings?

His satanic majesty has never been accused of finding something for busy hands to do. Work and sacrifice will not hurt any one if there is a reasonable amount of pleasure and play mixed in; and a college-trained man who has a few dollars put by for the time-honored requirements of a rainy day, and is strong in the ambitious

strength of youth, is justified in marrying on any salary he can persuade the "only girl in the world" to share with him.

SEED TIME AND HARVEST.

Because southern latitudes are first to feel the advance of spring, says a bulletin issued, recently, from the United States Department of Agriculture, it is quite natural to suppose that planting and harvesting always move northward with its advance. As a general fact, the progress of sowing and harvesting is northward, but there are interesting exceptions. Of cereals sown in the spring, sowing and harvesting always move in a northward direction, while of those sown in late summer or fall the sowing movement is always southward. Harvesting progresses northward in the case of all cereals except buckwheat. Corn planting progresses northward; winter wheat sowing moves southward. The harvesting of corn and of winter wheat progress northward, but the sowing and harvesting of buckwheat progress southward.

The sections of the United States wherein corn planting begins simultaneously are shown by means of a map crossed by lines extending from east to west.

At the starting point, near Brownsville, Tex., corn planting begins, usually, February 10. The movement reaches the Texas-Oklahoma line about March 12, and therefore crosses Texas in 30 days, or at the rate of 18 miles a day.

From the time this movement starts at the Texas-Oklahoma line until it reaches the Oklahoma-Kansas line 25 days elapse. The distance from one state line to the other is about 220 miles. Planting, therefore, moves northward through Oklahoma at the rate of nine miles a day. The rate of progress through Kansas is 10 miles; through Nebraska, 19 miles; through South Dakota, 50 miles; and through North Dakota, 44 miles per day.

The soil temperature at which corn germinates has been ascertained by numerous tests in field and laboratory. The air temperature at which corn planting takes place in actual practice, however, has not heretofore been established, but from data assembled in this bulletin, it is believed to be approximately 55° F. Air temperature records at corn planting time in the vicinity of 127 cities east of the Rocky Mountains are given in tabular form.

Compilations of dates of sowing and harvesting by states, by sections of states, and units (tracts 70 miles square) are given for corn, wheat, oats, rye, barley, buckwheat, flax, cotton, and tobacco; maps and illustrations explain the text; and interesting discussions are given of the phenomena of seed time and harvest.

RESPECTFULLY REFERRED.

Recreation is the key to contentment. The boy or girl who works hard every day, without any time for pleasure, will grow up with a grouch. There is nothing to look forward to, no anticipation for the days to come. It is just a weary road with work piled up on every side.

Do you want your children to grow up, Mr. and Mrs. Farmer, without knowing the pleasures of a fishing, hunting or skating party? Do you want them to be mere machines, to work, day after day, until they become disgusted with everything? Of course you do not. But, did it ever occur to you that you were making this mistake when you denied them time for amusements?

Let the children invite their friends to their home. Provide games and amusements for them. Light refreshments are appropriate and inexpensive on such occasions, and the girls will willingly assist in the preparation. If they wish you to take part in their games, do not feel that you are too old, but join them with the same enthusiasm you did when you were young. If you can afford a piano, you should have one for the children; if not, you can at least have a few stringed instruments. Music and books are among the greatest home-ties.

A Golden Text.

Sow to yourselves in righteousness, reap in mercy; break up your fallow ground; for it is time to seek the Lord, till he come and rain righteousness upon you.—Hosea 10; 12.

As the children grow older, the boys may have a driving horse and buggy. The horse need not be a fine, expensive animal, but one that is not used every day in the field. Boys do not like to drive horses that have been worked all day. The girls should have a variety in the housework. Do not make them always wash the dishes, but teach them to do the cooking. If they like to do the outside work, let them care for the milk and chickens.

Every boy and girl likes a chance to earn spending money. If they earn their own spending money they early learn the value of it, and how to take care of it. Give the girls some of the poultry and dairy money. The boys should have the proceeds from a few acres of wheat. This will encourage them to take better care of the whole field, and make them more contented at home.

J. M. P.

AS TO FRONT PAGES.

[Written by a student of printing and industrial journalism.]

The front page is the show window of a newspaper. It ought to be attractive.

The merchant who makes his windows attractive and invitingly displays his goods to the customers is the man who gets the business. The young man who, upon application for a position, arrays himself modestly and becomingly most often is the one to whom the job will go. These are proved facts.

The best move an editor can make to insure the success of his paper—big or little—is to make his front page attractive. Upon the appearance of the first page and the make-up of headed articles depends the number of subscriptions and advertisements he will obtain. Readers dislike to pick up their daily or weekly paper and meet with some eye-bewildering, confusing conglomeration of news, gossip, and advertisements.

The first page should be as carefully prepared as the window trimmer prepares the display fronts. The writing of headlines for this page is an important matter. Make them tell the news. The busy, hurried man may like to scan these, even if he cannot spare time to read the entire article, and if they tell him the matter, briefly but thoroughly, a good customer is assured. There is another sound reason for good headings. Headlines, well written, and tastefully set, add greatly to the typographical appearance of a newspaper, and when the artistic quality of a paper is increased the intrinsic value increases in proportion. A good newspaper front has been proved to be quite as useful as a bank account.

Avoid "yellow" heads. The public is tired of them. Use headings which touch all points of the written matter that follows. The two or three pyramid-decked heads are best. One or two key lines can be used with good results. Adopt a style and continue it. The largest and best papers are selecting No. 18 or No. 24 point type. Select a fairly condensed type. This will allow four or five words in the first line. With this line acquaint the readers with what is coming. Excite their interest. The rest of the headline should detail somewhat the reading matter which follows.

Discipline your advertisements. If you believe in advertisements on the front page—which many publishers do not—never place one advertisement alone on the front page. Insert two, and place them in balancing positions. Big, glaring advertisements spoil the "window space" of newspapers. Make your advertisements a background for the news goods. It will pay, notwithstanding contrary opinions.

A. G. V.

WOMEN? WHY NOT?

Why is it that women do not grow mentally as men grow? Most women

say they do. Nearly all men say they do not. Women do grow mentally as rapidly as men, theoretically, but not practically. Women lack self-confidence. Perhaps this is because woman has depended on man since the days of Adam. A woman can learn just as easily as a man, some, more easily. But when it comes to putting this intellectual ability into practice, they haven't the self-confidence to do it. They do all right on minor subjects, but when it comes to a subject out of the ordinary, they always ask for advice from a man. Whereas, if a man runs up against these larger subjects, he has self-confidence enough to go ahead with the subject. This will prove his mental ability above that of a woman every time, although she may know just as much about the case.

This is proved all over the world in everyday cases. For instance, consider a woman physician. She may know just as much about the case as any doctor, but there isn't one out of a hundred, when an extraordinary case comes up, that will not go to a man physician and ask for advice.

Women teachers are not so practical as men teachers. They do not think things out for themselves as men do. They depend too much upon the book, which in most every case is written by a man. They do not require that the students solve certain problems, or reason things out for themselves, as men teachers require. All that women need is more confidence in themselves to solve these problems, and to go deeper into the subject in hand.

It is a woman's nature from the beginning to lack self-confidence. It is her nature to be more or less nervous; they are all of a more nervous disposition than men. Women aren't so strong physically as men, and this physical weakness has kept her in a subjective attitude. Man has always had the advantage over woman. We know that women are overcoming these weaknesses. We know there are more business women in the world to-day than there were a hundred years ago. Certain things, as the typewriter, have contributed toward her recognition in the business world, and her ability has asserted itself and put her on a par with men in the thinking world. When she has the self-confidence of her brother there will be no line of demarcation.

M. B.

THE WATERVILLE SCHOOL.

Kansas usually is alive to what is best for its school system; not because it is not modern, but in order that it may be the best. One of the recent, significant developments was in the schools at Waterville, Marshall county. Waterville has gone far in bringing its school and the town together by arranging a series of weekly half-hour talks on subjects of local interest.

There is no reason that the public schools should not be more than places of study. They should be training schools for future citizens. Any boy who has heard local problems discussed by men with the town's interest at heart must give the matter some thought; and action sometimes follows thought. If properly directed, this scheme doubtless will result in much future good for Waterville.

E. A. V.

Dr. Eliot's New Book.

"The Conflict between Individualism and Collectivism in a Democracy," a volume containing three lectures by Dr. Charles W. Eliot, president-emeritus of Harvard, has been received. The lectures were delivered at the University of Virginia in November, 1909, under the auspices of the Thomas Nelson Page foundation. With characteristic clarity of treatment and language Doctor Eliot distinguishes sharply between socialism and collectivism, and describes the conflict between the latter and individualism first in industries and trade; second, in education; and third, in government. Doctor Eliot handles his theme as an analyst of existing facts and forces. The book supplies three hours of good reading to thoughtful persons. It is supplied by Charles Scribner's Sons, New York and Chicago.

Some Time.

Some time we're going to do a kindly deed.
Or speak a helpful word to some lone heart;
Some time we're going to plant the living seed
In soil where it will thrive and do its part.
Some time we'll stop to help a wearied soul
Which staggers underneath a heavy load;
Some time we'll pause, while rushing toward
The goal.

To aid a brother on a rocky road.

Some time glad eyes will speak the love they bear

Because of favors which were ours to show;

Some time in life's long day we'll gladly share

The little blessings which are ours to know.

Some time we're going to stop the ceaseless grind—

This everlasting hurry-life we live.

And be more loving, tender, true and kind,

More thoughtful and more ready to forgive.

Some time we'll cease to fret at little cares,

And put away our foolish, timid fears;

We will not look for pitfalls or for snares.

We'll speak no gossip for our neighbor's ears.

Some time we will only see the good in men,

Be blind to all the worthless and the bad,

And recollect our own weak faults, and then

Just strive to make the whole world bright and glad.

—E. A. Brininstool in Los Angeles Express.

SUNFLOWERS.

Our idea of a really soft snap is that of head writer on the Atchison Globe.

The convict baseball nine, at the state penitentiary, must not forget that over the fence is out.

When you meet a man with a built-in grouch, an ingrown scowl, and several kinds of language, one for his wife, and none for church, you will hear him say: "They jes' ain't nothin' to these polls."

Can you answer this? When the guest registered in the country hotel the clerk wrote "408" opposite his name, took a key from a peg marked "23" and admitted the guest to room 5. What was the rate?

Kansan.—The story you clipped represents the ravings of an irresponsible reporter. The person you addressed had nothing to do with it. He didn't say it. Otherwise it was a good yarn. Quick, Kennedy, bring the battery; the girl may recover.

From the Hell Creek items in the Gove County Republican-Gazette it appears that Frank Smith needs the attention of the State Humane Society, if there is one. Frank has turned his horses out of the barn and turned in a supply of ice for next summer.

A poll of the audience was taken, a few nights ago, in the Majestic theater, Topeka, to determine whether the company should play "Fifty Miles from Boston," or some other piece, next week. Every one seemed delightfully at home. Roosevelt received 177 votes. One man wrote on his card: "Play 'Fifty Miles from Boston'; don't play here."

A school is to be opened in London to educate girls to become wives, or, as the London papers put it, "fit to be wives." How jolly! And in this country, don't you know, the agricultural college is turning them out by the hundreds every year—complete in every way, except, of course, for the chap. And it's a tu'penny wager that he's at the gate, awaitin' for 'er.

Several candidates for the bomb-proof vault appeared, last Friday, in the Cincinnati Enquirer's account of the wreck at Warrior's Ridge. The class will please note that the victims were imprisoned like rats in a trap; that the cars were crushed like eggshells, and the hospital crowded to its utmost capacity. Although three persons were killed and 67 injured, the Enquirer's top-line reads "Truck."

Worth Knowing.

If you would have light dumplings, leave the cover off for about 10 minutes after you have put them in.

Gingerbread is made doubly good by the addition of a few spoonfuls of grated chocolate before baking. This makes it richer and does not affect the flavor.

When beets are left from dinner wash them and rinse in boiling water to free them from butter or sauce, and drop into a weak vinegar. In this condition they may be kept for a long time and can be used as needed for salads and garnishing.—Montreal Star.

Poverty Stricken.

The Osborn boys have sold their cattle and hogs to Bennie Longnecker. They received five thousand dollars.—Thayer News.

ALUMNI NOTES.

Miss Bertha Phillips, '11, visited with friends and relatives in Manhattan last week.

Roy M. Johnson, '10, is visiting college friends. Mr. Johnson is running a dairy at Mankato, Kan.

John Ryan, '07, and Erma (Gammon) Ryan, '08, of Muscatiah, Kan., visited with friends in Manhattan the first of the week.

G. E. Dull, '11, attended the oratorical contest last Saturday night. He has been visiting in Iowa during the past month.

Ralph Hull, '08, stopped in Manhattan to visit with friends last week. Mr. Hull had been to Kansas City with two cars of cattle.

E. L. Hageman, '11, was in town to attend the oratorical contest. He visited with friends Sunday and returned home Sunday night.

Al. G. Strong, '11, is in Manhattan on a two-weeks' visit. He has been working for the Westinghouse Electric Company at Pittsburg, Penn.

Miss Edith Justin, '08, came home Saturday to attend the oratorical contest. She is teaching domestic science and art in the Clay Center high school this year.

Miss Alice E. Skinner, '09, visited in Manhattan the latter part of last week. Miss Skinner is instructor in domestic science in the high school of Fairbury, Neb.

Leroy Rigg, '01, Kirwin, Kan., reports the arrival, February 6, of daughter number three in his family. The name by which she will be known is Edith Elizabeth.

Claudia Hansen, short course 1907, of Jamestown, writes to Prof. Albert Dickens that he is cutting nearly 100,000 feet of cottonwood and native lumber, and is prospering in an agricultural way.

Miss Retta Womer, '04, and Miss Georgia Canfield, a former student, who are teaching at Belleville, Kan., brought their classes in agriculture and domestic science to attend the oratorical contest, February 17.

Albert N. Godfrey, '78, writes from Port Townsend, Wash., to Prof. C. A. Scott, inquiring the price of the red cedars that the forestry department is offering for sale, with the statement that if the trees are sold to out-of-state buyers, he will avail himself, gladly, of the opportunity to buy a few hundred to plant for a windbreak around some fruit lands he is developing.

Mr. and Mrs. L. C. Aicher arrived in Manhattan, Sunday, from Washington, D. C., and are visiting Mrs. Aicher's parents, Mr. and Mrs. E. H. Davis, on Juliette avenue. Mr. Aicher expects to return to his home in Aberdeen, Idaho, Wednesday. Mrs. Aicher will remain for a longer visit.

Miss Winifred Cowan, '11, attended the Y. M. C. A. minstrel Thursday night.

J. M. Pierce and Nora (Reed) Pierce, both of the class of '98, with their children, Howard and Lyle, spent Tuesday and Wednesday in Manhattan visiting the college, classmates, and former acquaintances. Until recently Mr. Pierce has been engaged in fruit growing at Geyserville, Cal., but is now en route to Berger, Idaho, where he has recently purchased 160 acres of irrigated land, on which he will conduct a general farming business.

A letter from G. C. Kahl, '07, with the General Electric Company, Schenectady, N. Y., gives this information:

George T. Fielding, '03, has left the services of the General Electric Company and is in New York City, engaged in electric sign work.

H. D. Matthews, '04, is in the switchboard department and resides at 33 Furman street, Schenectady.

E. Adamson, '05, is a draughtsman and resides at 735 Brandywine avenue.

L. R. Elder, '06, is a salesman, and correspondence should be sent to the General Electric Company at Portland, Ore., Electric Building.

L. M. Graham, '06, is an engineer

in the New York office, located at 30 Church street, New York city.

F. R. Lindsey, '07, is a designing engineer and resides at 328 Germania avenue, Schenectady.

G. C. Kahl, '07, is a commercial salesman and resides at 29 Moyston street, Schenectady.

A. S. Salkeld, '09, Carl Forsberg, '08, H. D. Strong, '08, and George G. Goheen, '08, are traveling salesmen, and can be reached by addressing the commercial department of Schenectady, care of William Newcombe.

Charles Jacobus, '09, is assistant foreman in the testing department and resides at 13 Eagle street, Schenectady.

Roy Wilkins, '09, lives at 13 Eagle street, Schenectady.

C. A. Ward, '10, is residing at 840 Lincoln avenue, Schenectady.

To The Kansas Industrialist:

Your paper of February 10 came to hand yesterday, and carried my memory back to the days I spent in the old school with the class of '90.

I have been watching the paper with considerable interest, especially when I would run across clippings in exchanges over a thousand miles away from Kansas, which originated in your sanctum.

While I had, in a measure, known of the tremendous advance made by the Sunflower State and the growth of K. S. A. C., yet I am free to admit that the actual facts were almost beyond belief.

The 20 years that have passed have been spent in strenuous pioneer work here, in Florida, and while I had a keen realization of the rapid progress of the South, yet some way, I expected to find Kansas, and especially the college, to be as I had left them. Your note on "The Alumni Abroad" was very interesting and led me to let you know that the paper you are sending me comes out into the heart of the "Everglades," where 200 miles of canal are now under construction by our company for draining some two million acres of rich muck land. From an engineering standpoint, it's a stupendous undertaking, calling for four main canals with a depth of 8 feet and bottom width of 60 feet. After these main canals are finished there are several hundred miles of lateral canals yet to be dug of smaller prism.

There is quite a colony of Kansans at Ft. Lauderdale, this winter, among them Mr. and Mrs. Sharp of Manhattan. Probably it wouldn't be hard to organize a Kansas Society if we could get together.

I am employed as superintendent of dredges on the "North New River Canal" at present, and perhaps some of my classmates would like to hear from me. W. H. SANDERS, '90. Ft. Lauderdale, Fla., Care Furst-Clark Const. Co.

STRENGTH IN THIS CROP.

Over 1000 Cars of Bermuda Onions Grow in the U. S. in 1911.

"The Bermuda onion industry," said Secretary Wilson, recently, "which last year amounted to over one thousand car loads, has been developed in the United States in the last few years.

"The large celery industries of southern and central California were developed during the past decade. There has also grown up in connection with the celery industry a large cauliflower industry, which places a product in the eastern markets at a season when they are not supplied by the Long Island and up-state sections of New York. There has been at least fifty per cent increase in the area devoted to the production of celery in Florida during the last decade, and similar extensions of the potato, tomato, and strawberry interests of this state."

Clear the Ashes.

Don't let the ashes choke up your grate and burn it out, says the *Commoner*. Use the shaker often, and empty the ash pan before it gets too full. Keep a regular fire by adjusting both dampers and fuel.

USE THE CHEERFUL HUES

DARK CURTAINS AND TAPESTRIES SOMETIMES ARE DEPRESSING.

Of Course Much Depends on the Room—A North Room Needs Bright, Warm Colors, While a South One, Cool Tones.

Curtains and draperies are essential features of every home. In choosing them one should be careful to have the colors harmonize with the colors of the room. Few persons realize how colors affect the spirit. Dark and gloomy colors cause depression, while bright colors bring cheerfulness.

This doesn't mean to use bright red or green, all the time. Certainly you must show good taste. Colors should be chosen with reference to the quantity and quality of light which enters the room. A north room needs bright, warm treatment—yellows, reds, and golden browns—while a room with a southern exposure requires cool, light colors—blues, greens, and cool gray tones. It is not hard to have the curtains and draperies harmonize with the color scheme, if carried out in the right way. Curtains must be in harmony in tone and design with their surroundings. Draperies should harmonize, but be stronger and richer in tone.

THEY LEARN IT HERE.

These are some of the things girls at the Kansas Agricultural College learn in the color and design class. To furnish a house tastefully and to buy things to "match" requires a study of harmony in colors.

Care should be taken in making curtains to see that they will not lose their shape and sag. Curtains and draperies should hang in soft, straight folds. They soften the hard lines and add much to the beauty and dignity of a well-planned room. Never tie curtains or draperies back with a cord. You often see a pair of heavy curtains meeting in the middle of a window and then held tightly back, or hung on a rod at the top and bottom of a window, and then tied back in the center. This gives a feeling of uneasiness to those who appreciate the fitness of things, and are in themselves a contradiction.

ARRAS CLOTH POPULAR.

In selecting materials for curtains, there are many beautiful patterns to choose from, and at prices to suit nearly everyone—linen, velours, velvets, silk-crinkled tapestries, brocades, corded silks, and figured tapestries, all of which make suitable hangings for various rooms. Arras cloth is one of the best materials. It possesses a slight variation in texture that is very desirable. It is like common burlap in weave, and is made of a mixture of linen and cotton. Persons who appreciate linens enjoy those with coarse mesh called "bloom linens."

TEN A WEEK TOO MUCH?

That's What This Writer Says, and She Has Some Suggestions.

To The Kansas Industrialist:

Your paper is a very welcome weekly visitor in our western home. Being a housewife, I am especially interested in any domestic science article, and have received many helpful suggestions from your paper. Just recently, however, I was much disappointed in the article, "How Four Persons Can Live on \$10 a Week." Even in our city of high prices, that seems an easy thing to do.

What we, as housewives, want are the economical and well-balanced menus, in which the meat substitute takes its place, and is not an extra dish; in which the meal can be well and daintily prepared with a nominal amount of labor; menus showing how a family of six or seven can be fed, wholesomely, on \$60 a month, and enough be saved for rent (in many cases), fuel, car fare, clothing, etc. It is a widely recognized fact that the great majority of wage earners have but three-figure salaries—in many instances, \$700 a year.

Those of us who are blessed with a little more of the filthy lucre need the

lessons, also, that our children may have a portion of the saving for higher education and that we may more fully sympathize with those less fortunate. It seems to me that the agricultural schools of our country have these problems to handle.

When fresh eggs are 50 or 60 cents a dozen, milk 11 cents a quart, butter 45 or 50 cents a pound, and we get but from 12 pounds to 14 pounds of sugar for \$1, we certainly need to plan our menus with a more careful regard for the food value in each article, as well as the price of the same. I am

A loyal Ex-K. S. A. C. student, DAISY (STRITE) BROOM. Spokane, Wash., Feb. 11.

The foregoing letter gives THE KANSAS INDUSTRIALIST particular joy, because about one-third the housewives in Manhattan have declared it impossible to feed any family for \$10 a week, and keep it out of the hospital. Mrs. Broom's husband, Byron Broom, was graduated here in 1906. She was a student here in 1904 and 1905. Mr. Broom seems to have started out in mighty fine company on his life journey.

TRAIN THE DOG TO WORK.

On the Farm an Intelligent Collie Can Be Useful.

Scotch Collies are the most useful dogs for the farm, besides being the most companionable. They are naturally intelligent and do not range over the country, as do most dogs. With proper care a Scotch Collie pup can be trained to do almost any dog trick. A well-trained Collie will bring stock from the pasture more satisfactorily than most boys. The herdsman at the Kansas Agricultural College has a Collie dog which is very useful for that purpose.

The demand for Scotch Collies is steadily increasing as their value on the farm becomes known. It is better to buy pups or young dogs, as they are more easily trained. They usually are black, with tan legs and tan dots over the eyes and feet, tail tipped with white, and often with white collars. With their large, shaggy, silky coats they are very pretty. As house dogs, they have no equals.

The pup must be treated kindly. Scolding and whipping will soon spoil him. In training him, always use the same words and he will soon learn to know what you mean. After he has learned one lesson well it is no trouble to train him to do other things. When he is older, if you have to whip him for disobedience, be sure that he is again friendly with you before you let him go. If you do not you are likely to spoil him. It requires patience to train a dog right.

EGGS FROM CITY HENS.

A Small Pen Properly Cared for in Town Will Give Satisfaction.

The city man may have fresh eggs every morning for breakfast if he will buy early pullets in the fall and take good care of them through the winter. In the spring he may eat the birds or sell them, as he likes, for fresh eggs of good quality are fairly cheap at that time of year.

"From a standpoint of farming, it would not pay," says W. A. Lippincott, professor of poultry husbandry at the Kansas Agricultural College, "for the cost of an average city lot may be from \$2000 to \$3000, according to the city. From a standpoint of recreation and getting fresh eggs, it pays well."

By careful feeding and warm housing many city men have made a small pen of laying hens pay. Some even have made a profit on as few as eight good layers. The time required to care for the hens is trivial.

Good, young pullets may be bought for 75 cents to \$1 apiece. They may be sold when summer arrives for seven or eight cents a pound.

The forward progress of the world means that in every sphere the sacredness of each human being, the importance of the individual life, is increasingly evident.

KNOW WHAT "FRYING" IS?

IT'S COOKING IN DEEP FAT, NOT SHALLOW FAT.

The Commonly Called "Fried" Dishes Are Sautéed and Hard to Digest—Foods Fried in Deep Fat Are Very Wholesome.

Fried foods, you sometimes hear, are unwholesome. Strictly speaking, frying is cooking by immersion in deep fat. Food cooked in this way, if the cooking is properly done, is very wholesome and appetizing, according to domestic scientists at the Kansas Agricultural College.

Sautéing is cooking in a small amount of fat, browning the food first on one side, then on the other. Sautéed foods are less digestible than fried, and are often nearly indigestible. They are often commonly called fried, as "fried eggs" or "fried potatoes." Both of these foods are very hard to digest. This is because the protein in the egg and the starch in the potato become surrounded by the fat in cooking, making it almost impossible for the digestive juices to reach them.

DEEP FAT COOKING.

When foods are cooked in deep fat the temperature of the fat is such that a fat-proof coating is formed before there is time for the food to soak with fat. This crust or coating is sometimes of bread crumbs held together with egg, as in the making of croquettes, and sometimes merely the outer part of the food itself, as in doughnuts.

French fried potatoes are more digestible, and are usually considered more appetizing, than those commonly called "fried" potatoes, or those cooked in shallow fat. It is always better to fry foods than to sauté them.

ABAS THE CROQUETTE.

Although fried foods are comparatively easy of digestion, there are better ways in which they might be prepared. For instance, instead of making left-over cold beef into croquettes, it would be better to use some other method of cooking. It might be creamed and served in crustades or with rice in casserole, or made into a meat soufflé. Beef and other meats that are usually cooked in a small amount of fat, as steaks, are more wholesome if breaded before cooking, or, still better, broiled. Fish is also better broiled or baked.

Eggs may be hard or soft cooked, baked, or poached, or cooked in various other possible ways. In an omelet they are sautéed, but the instant coagulation of the egg albumin by the heat forms a coating and prevents soaking of fat, thus making an omelet a food easily digested.

Why Not, Girls?

Why shouldn't there be a scientific method of housekeeping, as well as of farming? It is as important, if not more so. There should be some way of getting the women and girls more interested. This is being done more and more, but not half so much advertising is done for "good housekeeping" as for "good farming." If the girls were once interested they surely would not neglect such opportunities. Go into a home where the domestic science course has been put into operation, and into a home where it has not, and you will readily understand why girls should go to college. I saw what the course had done for others and was prompted to fall in line with the "progressives." With these opportunities of obtaining an education while earning one's own way, there is no reason why every girl, if she is ambitious, should not take a college course—and in this college if she so desires. I have demonstrated to my own satisfaction that it may be done.—From a Student's "First Assignment."

Apple Dainty.

Select firm, large apples, core, peel and boil carefully till nearly tender. Put them into a baking pan, cover with a thick syrup, and bake until brown. Then fill the cores with orange marmalade and set back in the oven for 10 minutes. Serve very cold with sugar and cream.—*Newark News*.

CALL FOR KANSAS GIRLS

TWO MORE STATES SEND FOR DOMESTIC SCIENCE TEACHERS.

To One Young Woman West Virginia Will Pay \$115 a Month and Expenses—Other Agricultural College Graduates Get Good Jobs.

It takes Kansas to furnish the domestic science teachers. Graduates of the domestic science school at the agricultural college seem to have the goods that are in demand all over the country. West Virginia and Oklahoma got two of them last week.

Miss Winifred Cowan, who was graduated only last spring, will go to the University of West Virginia to do extension work in domestic science. She gave up her position in the Holton high school because the West Virginia job carried a higher salary. Miss Cowan will be paid \$115 a month and all expenses, including traveling expenses to West Virginia. Miss Cowan's home is in Kensington, Kan.

Kansas, by the way, has taught West Virginia nearly all that state knows about extension work in domestic science—traveling cooking and sewing schools, girls' home economics clubs, and the like. You may remember how, last winter, a wealthy citizen of Wheeling, W. Va., asked the Kansas Agricultural College to send its chief organizer, Miss Frances L. Brown, to West Virginia to start a campaign such as she had been conducting in Kansas. Miss Brown sent Miss Minnie Forceman, an assistant, who stayed in that state a month, talking extension work, demonstrating with movable schools, and planning a state-wide campaign. G. A. Laughlin—the wealthy citizen—paid all the bills for this month of Kansas lessons. Such an interest was aroused that now the state has taken up the idea. Enough money has been given the university to carry on this work, and Miss Cowan is to play a leading part, in it.

Oklahoma took Miss Helen Parsons, a graduate in the 1911 class. Miss Parsons will teach domestic science and art in the high school at Ramona, Okla. This high school is one of the best in that state. It is housed in a new, modern school building. A housekeeping course recently was added. Miss Parsons lives at Arkansas City.

Another member of the same class who accepted a position this week is Miss Alma Levensgood, who lives at Athol. The Holton, Kan., high school has employed Miss Levensgood to teach domestic science and art.

ALFALFA SEED FOR DYES?

Nothing to the Story, Says D. H. Rose, of the Botanical Department.

If you hear anyone say that Kansas alfalfa seed is bought by dye manufacturers in the East, ask him where he got his information. Men representing all the seed houses in Kansas say they know nothing of any such use of alfalfa seed. They ship large quantities of it to Kansas City and Chicago, and further east, but in no case, so far as they can learn, is it bought by makers of dyes. Kansas alfalfa seed goes for and brings good prices, but in the end it reaches a drill box, somewhere.

It is not easy to see why the belief is so common that alfalfa seed is used as a source of artificial color. When it is put to germinate between blotters or pieces of flannel the color comes off on these, but it is doubtful if many persons have seen this happen. The seed, wet in a bin or a sack, might color slightly the boards or the sack, but that does not make it a rival of commercial dyes or red ink.

Another belief that seems to be quite common is that alfalfa seed from irrigated land is not so good as that from land not irrigated. If this be in any manner true it is because conditions on irrigated land are as unfavorable to produce a good seed crop as they are on bottom ground in the eastern half of the state, or on any ground anywhere in a wet season. Wet weather, no one knows exactly why, causes a lot of the seeds, even

out in the field before it is cut, to turn brown or black. Most of these fail to sprout when sown, so the value of the crop is to be gauged by the proportion of plump, yellow seed to brown and black ones.

It has not been proved that irrigated seed will not make good, vigorous plants, and if poor results have come from using it, the most likely explanation is that water had been turned on or left on too close to the time of the ripening of the crop. Wet soil and moist air will make poor alfalfa seed on any soil.

ICE WAS CHEAP, THEN.

Long Ago Manhattan Was the Chief Glacial Headquarters.

A great ice blanket extended from the north pole to Manhattan not so very long ago—in geological time. This blanket was a great soil-forming machine, and much of the soil's richness on the farms of northeastern Kansas is due to the action of the glacier.

It is probable that the ice was several thousand feet thick, but even if it was only 1000 feet thick it would exert a pressure of 57,000 pounds to the square foot on the surface of the earth. It was a great mill, and its product was flour—rock flour. The bottom of the glacier was thickly set with sand, gravel, and thick "nigger head" rock, and it ground the top of the earth into fragments as it passed southward. It filled the valleys, and cut great gashes in the outcropping rock. The Kansas State Agricultural College stands on a hill that was formed by glacial action. Many rocks, transported by the glacier, were found when the excavations were made for the basements of the buildings.

The southern line of glacial action enters the United States at Nantucket, near the eastern end of Long Island. It crosses the northwestern corner of Pennsylvania to the Ohio river, and follows that river to the Mississippi. The line then follows up that river until the mouth of the Missouri is reached, and follows that river to Kansas City, crossing from one side to the other quite frequently. From Kansas City the line extends up the Kansas river to the campus of the Kansas State Agricultural College, at Manhattan. From there the line extends northward, and enters Canada near the Idaho boundary.

In some parts of the glacial area a deposit of rock flour was not left. In these sections the farm barns are not so large, and the general air of prosperity is not so evident, as in the surrounding regions. Glacial soil is rich. If you don't believe that, ask the farmers in Brown, Nemaha, and Leavenworth counties, who have been farming land formed in that way. The black prairie corn soils of Illinois and Iowa, and the wheat lands in the Red River Valley in the Dakotas, are all ice formed.

Glacial soils are especially rich in two essential mineral elements, phosphorus and potassium. If the supply of humus—which is decaying vegetable matter—is sufficient, profitable crops always may be grown. Sometimes it is necessary to apply humus, in the form of barnyard manure or green crops that are plowed under. These lands also are rich in the basic elements, such as calcium, and they do not become acid easily. They are not so likely to become "clover sick" as the non-glacial soils.

Hall Wallpaper.

Light papers should always be used in a dark and narrow hall, as it makes the hall seem larger. Stripes should not be used, as they give an appearance of height. If the ceiling is brought down 18 inches on the side walls and a light, soft, yellow paper of warm tone used with white woodwork, you will find the hall cheerful and bright.—*Woman's Home Companion*.

Life means growth. The knowledge of yesterdays is so much intellectual power, but unless vitalized by new thought it quickly becomes dead.

GRAIN MUST BE PURE.

THE NAME OR BRAND, HEREAFTER, WILL BE MORE IMPORTANT.

A Recent Ruling in a Pure Food Case May Save Kansas Wheat Dealers Much Money—The Inspection Rules.

A recent interpretation of the pure food law will, if enforced, mean much to the growers of Kansas hard wheat. This ruling relates to grain sold in interstate commerce, and requires that it shall comply with the requirements of the United States Food and Drug Act. This means that shipments of grain sold by grade must be true to its name or brand.

The Illinois state grain inspection rules describe number 2 hard wheat to include all varieties of hard winter wheat of either or both light and dark colors, dry, sound, sweet, and clean, and may contain not more than 25 per cent of soft red winter wheat, and weigh not less than 59 pounds to the measured bushel. The fact that it may contain 25 per cent of soft red wheat is injurious to the Kansas grower of hard wheat, in that the demand for Kansas hard wheat is lessened and its reputation injured. By allowing so great a per cent of soft red wheat to be included in this grade, the apparent supply is greatly increased, and this lowers the price.

SAVES THE KANSAS WHEAT.

This works a hardship upon the producer and the local grain dealers. There is a greater demand for Kansas hard wheat as bread wheat than there is for the soft winter wheat. This is because the Kansas wheat has a greater per cent of gluten and other bread-making qualities than soft winter wheat. If the consumer buys wheat and finds that it hasn't these qualities, the Kansas wheat is injured and the producers receive less for their product.

A recent article in the *Northwestern Miller* says: "The pure food board rules that unless grain sold in interstate commerce, subject to Illinois grades and inspection, complies in the opinion of government experts with Illinois inspection rules, the government will, if its attention be called to the shipment, begin proceedings against both shipper and grain, notwithstanding it may be shown that the shipper exhausted his resources to obtain a proper inspection of the grain in Illinois."

GRAIN UNDER PURE FOOD ACT.

The board holds that in voicing grain as of a described grade, or quality, and accompanying it with a certificate of inspection issued by duly constituted authorities, is, under the Food and Drug Act, considered labeling or branding said shipment, and if the grain in the original car load or cargo proves to be different from the description in the invoice, and as described in the certificate of inspection, it is considered misbranded under the Food and Drug Act, and is subject to confiscation by the government, and the shipper is subject to prosecution.

R. I. Davis the Orator.

The Webster orator, R. I. Davis, won the intersociety oratorical contest Saturday night. His subject was, "The Industrial Crisis." E. O. Graper of the Hamilton society was second, and C. O. Levine of the Athenian society was awarded third place. Every speaker did excellently, the musical numbers were entertaining, and the demonstrations were interesting and unobjectionable.

Would Keep Out Western Apples.

At the recent meeting of the New Jersey Horticultural Society the fruit growers of New Jersey, New York and Pennsylvania were urged to grow as good fruit every year as they have this year demonstrated as being possible, and to drive the western-grown apples from the eastern markets.—*The Fruit Grower*.

Try ground caraway seed in cakes and cookies. It is much better liked than the whole seed.

HERE'S A CHANCE For the Teachers

Know about the Spring Term?

TWELVE WEEKS

A time to learn **March 22 to June 13** A time to study

Not long ago a school-teacher supposed she knew everything worth knowing—after a few years. She knows better now. The law changes things so radically, with such short notice. There was the statute about teachers taking an examination in elementary agriculture! Whoever supposed teaching would come to that? But it did. And here you are confronting the situation.

The Kansas State Agricultural College Was Ready for the Law

Not only did it turn out adequate text books for the teachers and pupils; it provided special spring and summer terms for them. Isn't that almost doing the duty before it was due?

Here's A Special Course for the Teachers:

SPRING TERM:

Agriculture	History
Home economics	Mathematics
Manual training	German
Education	Chemistry
English	Physics
Botany	Zoology
	Entomology

SUMMER TERM—Six Weeks:

Sixty-Five Special Courses for Teachers in:

Agriculture	Home economics	Manual training
History	English	Mathematics
Education and Sciences		

SEND FOR CATALOGUE

Henry Jackson Waters, President,

Box Q, Manhattan, Kansas

COLLEGE TO HELP NURSERYMEN.

Experimental Work of Interest to Them is Planned.

Three agricultural colleges will cooperate with the Western Association of Nurserymen in solving some of the problems of nurserymen. They are the colleges of Kansas, Texas, and Iowa. This has resulted from a recent address before the association at Topeka by Dr. T. J. Headlee, state entomologist and head of the division of entomology and zoology in the Kansas Agricultural College. Doctor Headlee spoke of the relation of the agricultural college to the nurserymen.

Acting on his advice, the association appointed a committee on experimental work. J. H. Skinner of Topeka was appointed chairman of the committee. The other two members are C. C. Mayhew of Sherman, Texas, and E. M. Sherman of Charles City, Iowa. This committee will propose some experimental work and submit it to the agricultural colleges in the district covered by the association. From this list the stations may decide what they can take up, and thus each particular problem will be worked out in a place where the conditions and facilities are best suited to its study.

The experiment stations, through their various departments, and with the cooperation of the nurserymen themselves, hope to solve many of the pertinent questions that confront the nurserymen to-day. Some of the things that Doctor Headlee has suggested for consideration are soil culture, fertilization, rotation of crops, adaptation of particular crops to particular soils, plant propagation, and

the control of bacterial, fungous, insect, and animal pests.

COWS SHOULDN'T GET SICK.

Just a Little Care Will Prevent Diseases Among Them.

A cow hasn't any excuse for getting sick, says Dr. F. S. Schoenleber, state veterinarian at the Kansas Agricultural College. That is, it should not get sick if it has enough wholesome roughness and concentrated feed to eat, clean water to drink—minus the chill—meals served regularly, and housed comfortably.

Lack of roughness in the Central West has been one of the serious problems confronting the stockman this year. Cattle need a certain amount of roughage to do well. Here is where the silo is winning. The proper daily ration of roughness for the average size cow is from 40 to 50 pounds. The amount needed varies from this down, depending on the requirements to be met.

The more protection cattle have from the cold the less feed it will take to produce the necessary body heat. After this has been cared for, and the energy supplied for running the machine, the surplus goes toward the making of fat or milk.

When a cow drinks iced water it chills its system. The water must either be kept at a reasonable temperature or more feed must be fed to furnish the extra heat to warm the water after the cow has drank it. Housed in a draft, either in a barn or a shed, or turned out of a warm barn into the cold, may cause cattle to have pneumonia, or some other trouble.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, March 2, 1912

Number 19

FORCED TO USE TRUCKS?

MOTORS DO HAULING BECAUSE HORSES ARE FEW, EXPERT SAYS.

Many Firms in the Cities Are Replacing Their Gasoline Drays With Heavy Horses—Big Demand for Draft Animals Now.

"Many firms in cities are forced to use motor trucks simply because they can't get good, heavy, sound draft horses. The expense of running these auto-trucks is considerable, and many of these companies are ready to exchange them for draft horses just as fast as they can get desirable ones."

This is the statement of Dr. C. W. McCampbell, assistant in animal husbandry at the Kansas State Agricultural College. Doctor McCampbell, as secretary of the Kansas Horse Breeders' Association, is in a position to know about the horse market. Doctor McCampbell has kept well posted on the "Gasoline vs. Horses" question in the cities, principally Chicago. He makes these statements after investigating the conditions carefully.

HIGH PRICES FOR HORSES.

High-class draft horses are selling for \$225 to \$500 each. The majority sell for \$300 each. This condition of the market has existed during all of the past year, Doctor McCampbell says.

But the demand is for good, heavy draft horses, that is, horses weighing 1700 pounds or over, that are sound, smooth, and good movers. Less than 5 per cent of all the horses received in Chicago during the past year were of this type.

This great demand for big horses, according to Doctor McCampbell, has caused many local buyers to ship common, inferior horses to market. Apparently, they think that prospective purchasers, not being able to get the horses they desire, will pay good prices for common, inferior stuff. But the men who are looking for draft horses simply refuse to bid on ordinary stock, and many local buyers have lost money on animals that they have shipped to the larger markets.

PLENTY OF SMALL ANIMALS.

The result of all this is that the leading markets are flooded with common, inferior horses which are hard to sell at any price. This leads many persons to believe that the entire horse market is dull; that there is no particular demand for any kind of horses, and that horses are cheap. This, however, is an entirely erroneous idea. There is no particular demand for the average farm horse, but the demand for big, sound draft horses cannot be supplied.

Farmers, also, are looking for heavy draft horses, Doctor McCampbell says. This is the day of heavy machinery, and in looking about for the most economic and satisfactory motive power the farmers are beginning to realize that the heavy draft horse is the cheapest motive power to be found for the average farm.

"There is no other class of live stock that can be raised on a Kansas farm so good an advantage and profit as can these heavy draft horses," said the horseman. "If I were a farmer I certainly would try to help supply the demand. I believe there's good money in it."

CRENOTHRIX IN THE PIPES.

Too Much Iron in the Water Will Ruin the Pipes.

A half part per million of iron in water is detectable by taste, and more than 4 or 5 parts make a water unpalatable. In some mineral springs iron is the constituent which imparts a medicinal value to the water, but ordinarily it is undesirable. More than

2.5 parts per million in water used for laundering makes a stain on clothes. Iron is harmful in water used for steaming, for it is in equilibrium with acids which inside the boiler become dissociated, with the result that the free acids corrode the boiler plates; but the amount of iron carried in solution by most waters is so small that the damage it does to steam boilers generally amounts to little.

Waters having high iron content have in some places caused an immense amount of trouble and expense when used as city supplies, for they favor the growth of crenothrix to such a degree that the water pipes become clogged with the iron sheaths of the organism.

MILK MAKES TENDER FRYS

Fed to Chickens It Produces the Most Delicious White Meat.

A good way to earn money is to combine the dairy and poultry plants on the farm. In other words, feed the milk to the chickens. For fattening or for laying birds, there is nothing better. It does not make much difference, either, what kind of milk you give them. Sour and butter milk are as good as any, while sweet milk and curd are good.

W. A. Lippincott, head of the poultry department of the Kansas Agricultural College, gives the following as an excellent ration for fattening purposes:

1 part corn meal
1 part oat flour
1 part barley meal
1 part beef scrap
8 parts buttermilk or skim milk

This makes what is called slop feed, as it is thin enough to pour. The best feeding results are had with crate feeding. The birds, five or six in number, are placed in a slat coop. The bottom is of lattice work, and that makes it self cleaning. There is plenty of room in the coop, but the idea is to prevent exercise.

The crate should be put in a protected place, but not in a house. Under a tree or at the side of a building is a good place, if it is where other fowls cannot molest them. They are given no food for 24 hours previous to the feeding period, which should last from two to three weeks. The milk will be sufficient to allay their thirst. Feeding in this way has brought gains of from 25 to 85 per cent. It costs from five to seven cents worth of grain to put on a pound of gain. But if it did not pay from a feeding standpoint it would in other ways, for the flesh of a bird fattened in this way is far better, being much whiter in appearance and more juicy, and much more palatable.

For laying fowls, milk furnishes the animal protein that is necessary. In this way it takes the place of beef scraps, which is a packing-house product and somewhat expensive. It has been demonstrated that for every quart of milk a hen will drink, she will lay an extra egg, but of course the inability to drink much limits the egg production.

Whitewash From Cactus.

When traveling through the rural districts of Uruguay one's attention is attracted to the fine white color of the farm buildings, even during the wet season. To obtain this neat effect a whitewash is used which is made with the sliced leaves of the common cactus, macerated in water for twenty-four hours, producing a solution of creamy consistence; to this, lime is added and well mixed. When applied to any surface, be it of wood, brick, iron or other material, a beautiful pearly white appearance is produced which will endure through storms and frosts for many years.—*Farmers' and Drovers' Journal.*

SOW ONIONS IN HOTBED.

SEEDS PUT IN NOW WILL MAKE HEALTHY PLANTS.

They May Be Transplanted in the Garden in About Six Weeks—A Wheel Hoe the Best Cultivator, College Gardeners Say.

You can sow your onion seeds in the hotbed, now. Then, when the time comes to transplant them in the fields, you'll be just that much ahead of the other fellow, who waited for the warm days of spring before turning his attention to onions. And you'll find it more profitable, anyway. The ground intended for the growing of onions should be plowed early in the spring, and disked later.

Onion seed may be cared for, in the hotbed, the same as any other garden seed. The seeds should be planted about one-half an inch apart. They should be watered well in the warm part of the day. Many persons make the mistake of watering at night, thus chilling the growing seedlings.

A SANDY LOAM BEST.

The temperature of the hotbed, when the seeds are planted, should be below eighty degrees. The seedlings will be ready to set out in about six weeks, when about four or six inches high. A rich sandy loam is the best soil for onions, provided it is free from weeds. Care should be taken not to plant onions in land that has been recently fertilized with barnyard manure. Good land, when it is well cared for, will yield from 200 to 400 bushels of onions. An average yield for an acre, under high cultivation, is 350 bushels.

The ground should be cultivated, thoroughly, before the plants are taken from the hotbed, so that all weeds will be killed. The ground should be laid off in rows, eighteen or twenty inches apart. Some growers plant them only twelve inches apart. Onions will permit a little crowding. The tops should be cut back, well, when the plants are removed from the hotbed. They are set about three inches apart in the rows, the lower end of the bulb being about one inch below the surface of the ground. An ordinary dibble may be used in the transplanting. An acre of onions set out in this way, including every expense, will cost about \$20. The cost for an acre in drills is about the same.

A WHEEL HOE SAVES WORK.

The experiment station at the Kansas Agricultural College has found that a wheel hoe, with an onion hoe attachment, is the best sort of an implement to use for cultivation. Here's the advantage: The rows may be grown closer together, and that means a bigger yield for the acre.

The tops of the plants need not be broken over for the onions to ripen. They will ripen just about as soon, and as well, too, if allowed their own time. When the onions are harvested they are thrown in windrows, to lie in the sun until the exterior of the bulb is dry. Then they should be taken inside, spread out on the floor, and dried, thoroughly. If a building is available that will keep off the sun, and still allow plenty of air to circulate, that's an advantage. A corn crib is just the thing. The building serves the purpose best when the temperature is kept just above the freezing point. The onions should be sorted frequently, to prevent heating. They may be sorted the same as potatoes, but care must be taken not to bruise them.

THE BEST VARIETIES.

Some of the best varieties are, Prizetaker, Yellow Danvers, Red Chesterfield, Silver King, and Giant. The hotbed plan has a lot of advantages over the old style of planting. The seeds may be started in the hotbed as early as February. Thus

the crop matures earlier. The old way of doing was to sow in drills in the field. But this always meant a fight with the weeds, and many of the plants were lost in the fight. But with the hotbed plan, the task of weeding is eliminated, and that's a big item in the cost of production.

And there is another advantage that makes it profitable to employ a hotbed. The yield for every acre is increased. A more even stand is obtained; and a choice of the better seedlings is made. But if the onions are allowed to come up in the drills, the stronger ones—referring to the hardness of the plants—may come up too close together, and their growth is thus injured. Many of the best plants may be destroyed, while the less hardy ones take the place of the more desirable crop.

DRAINAGE AND ROADS NEXT.

An Agricultural College—"Katy" Train Will Tour Southeastern Kansas.

The increased crops for two seasons would pay for the drainage tile needed to reclaim thousands of acres along the Neosho, upland as well as lowland. Farmers who live along this stream know better than anyone else, perhaps, what the actual conditions have been for many years and how irregular have been the crop returns.

To help these farmers and to make every acre in that part of the state produce its highest yield, the Kansas Agricultural College will send out a special train, March 5, with men well qualified to give the proper helpful suggestions. This will be called the drainage and good roads train. It will leave Junction City Tuesday morning, March 5, over the Missouri, Kansas & Texas in charge of R. W. Hockaday, industrial agent for that road, coöperating with the agricultural college. The train completes its itinerary at Paola Saturday afternoon.

There will be about 45 stops in the four-days' trip. Every stop should be at least 50 minutes. Especial emphasis will be laid upon drainage, followed by good roads. The speakers for the week will be H. B. Walker, drainage engineer at the agricultural college; W. S. Gearhart, state highway engineer at the college, A. R. Losh, assistant highway engineer, and Prof. L. E. Conrad, civil engineer at the college.

Superintendents, and principals of high schools will be urged to have pupils hear these lectures. Banks, commercial clubs, mayors and other city officials will be asked to coöperate in stirring up interest. All correspondence about the train should be with J. H. Miller, director of college extension, Manhattan.

TRIM THE SHADE TREES.

Heavy Timber Close to Fields Shades and Saps Crops.

Trim up the timber along the fields where it will shade and sap the crop this summer. In the eastern one-third of Kansas, especially, the trees will injure the crops from 20 to 75 feet out into most of the fields. Most of this loss can be prevented if the trees are trimmed properly.

All of the scrub growth along the fields should be cut clean, for usually it is crooked and will never make good timber. The taller trees should be trimmed high, and left if they are straight. If crooked, they, also, should be cut. At the present price of Kansas farm lands it will not pay to let a scrub tree stand.

White elms probably are the worst trees to control along fields. They grow rapidly, and the limbs spread far out over the fields to shade the crop. Cut them down, and keep the stumps sprouted every year. It will pay.

COST OF PORK—4½ CENTS.

THAT MUCH REQUIRED TO MAKE A POUND, TEST SHOWS.

Animal Husbandry Department Experimented to Find Cost of Fattening—"Standard" Ration Was Corn, Shorts, and Tankage.

A good many feeders of hogs have no definite idea of how much of the grain eaten by the animals turns into flesh and bone. It is only in a general way that they figure how much their feed has been worth to them, especially when raising their own grain, pasture, and roughness.

Recently the animal husbandry department at the Kansas Agricultural College made several experiments to ascertain the cost of producing a pound of pork. The hogs were divided into lots of ten each and fed different combinations of grain and roughness, the results being different in each case.

THE "STANDARD" RATION.

One of the rations fed was what is called "standard." It is composed of 62 per cent corn, 30 per cent shorts, and 8 per cent tankage. This makes a balanced ration, and the hogs do well on it. It may be fed either wet or dry, as it has the same feeding value either way. If it is fed wet, there will not be much wasted, while if water has to be carried, the cost of labor would soon be greater than the feed wasted. The hogs thus treated were spring pigs that had been carried as stockers. There were ten of them. The average weight when they were started on this feed was 125 pounds, not fat, but good, healthy hogs that might be found on any farm. They were allowed no wallow, but they had plenty of good, clear water to drink and their skins were treated occasionally to prevent disease. It was found that these hogs consumed 3.72 pounds of mixed ration for every pound gain.

Using these facts as a basis, it was found that it takes .29 of a pound of tankage, 1.11 pounds of shorts, and 2.3 pounds of corn to make a gain of one pound. Estimating corn to be worth 62 cents a bushel, shorts \$1.45 a hundred, and tankage \$50 a ton, it costs .023c worth of corn, .014c worth of shorts and .007c of tankage for a pound gain, or a little more than .048c if the decimal places be carried out farther. At the present time this pound of pork would bring 6 or 6½ cents on the market.

KAFIR A GOOD FEED.

Experiments also were made to determine the feeding value of kafir and the relative cost, compared with corn. It was found that a little less was needed to make the unit of gain, 3.56 pounds of kafir, shorts, and tankage, fed in the same proportion as the "standard." Many of the counties of Kansas count on kafir as the surest crop, and it doubtless will be of great importance to them as a hog feed. Alfalfa hay and corn were fed to another lot, and it was found that 4.33 pounds of grain was needed, besides .39 pounds of alfalfa. Counting the hay at \$12.50 a ton, it takes .048c worth of grain and .002c of hay to make the pound gain.

Next year, it is planned to find how much green pasture hogs consume and what it costs to pasture them. Then it will be easier to get the exact cost of fattening a hog.

Raises the Nap.

To revive the appearance of a suit that is becoming so worn as to be shiny in certain spots, a bit of distilled white vinegar, diluted in water, rubbed on with a white woolen cloth, will raise the nap and give it a look of newness that will make the suit of good service for some weeks to come.—*Montreal Star.*

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MARCH 2, 1912.

WESTERN KANSAS.

The inhabitants of Finney and Kearney and Hamilton counties would find more enjoyment in life if they did not so often assume an offensive attitude. They should not imagine, for instance, that every unhappy story about "Western Kansas" is an attempt to ruin their reputation. "Western Kansas" is a very large and very active territory, and a great many things happen there. There is much land to the north and much to the south of the Valley of Content that has a legitimate right to be called "Western Kansas," and things happen there, too. Don't go about carrying a chip. This district should remember it has a friend at court who would never let anyone "put anything over" to their disadvantage—unless it was the truth, the whole truth, and nothing else.

THE BUSY STUDENTS.

A student naturally is a social being. He must have at least one friend with whom considerable time is spent. A large lecture course at college and onedowntown supply wants of this sort. Church and Sunday school class functions are also numerous. The theater has frequent offerings for those who care to go. Class parties and spreads occur at frequent intervals. Add to these the special numbers, such as lectures and musical numbers, dances, hops, and home-talent shows, and you find a list that keeps John from getting homesick.

The numerous clubs of the college also call for otherwise unoccupied hours. Some of these are: The athletic association, rooters' club, county club, literary society, debating club, English club, class book committee, architects', engineers', veterinarians' clubs, a number of fraternities, Y. M. C. A., Y. W. C. A., athletic teams, class teams, and class organizations. Then there are places on special bodies, such as the oratorical board, debating council, stock, dairy, and fruit-judging teams.

THE SILVER-TONGUED.

W. E. Blackburn, in the Anthony Republican, pays this tribute to the hardy pioneers of Western Kansas: "In speaking of the inhabitants of the plains country and climatic influences, W. L. Moore, chief of the United States weather bureau, said that the nearness to Nature of these people, the sudden and awful changes which they are called upon to withstand, in time would develop, by the process of extermination of the weak and elimination of the unfit, the greatest race of people the world has ever known in physical perfection, mental alertness, courage, and self-reliance. The day has come. The recent storms of snow and sleet, the most extended, the most severe, the longest trial of courage and endurance in the history of the state, were met by a people prepared to fight and conquer. In the arrangement of communal affairs, in the handling of railway equipment, there was shown system, courage, sustained and concerted efforts, that never for a

moment halted or faltered. In history there was nothing finer shown by the hardy pioneer of New England, no greater endurance before Lookout Mountain; no course of higher grade is recorded at Arickaree than was shown by the men and women of Kansas and of the West in facing and fighting the elements; in meeting the emergencies and trials, winning with a surprisingly small loss of life and property. Nature has already forged between the hammer of the sky and the anvil of the earth the man of heroic brain and brawn; the birth foretold has come."

ACRE OR MAN YIELDS.

The greatest rural problem is to increase the acre yield and not at the same time decrease the man yield. It is easy to increase the yields by the application of more labor, and by better methods of soil management. England, France, Germany and other European countries have done this, easily. It will be done in Kansas, and other western states, soon. But no country ever has been able to increase the acre yield without decreasing the return for the units of labor employed.

Every farmer must get a return for his labor that is large enough to allow a good standard of living. If this is not the case, there will be a movement toward the peasant conditions that are found in some sections of Europe. That was just what happened before the Roman empire was destroyed. During the time that the empire was increasing in power, agriculture was one of the most honorable of callings. The leading men were proud to be known as farmers. Then slaves, and other cheap, inefficient farm labor, were introduced. It was necessary to increase the acre yields to support an ever increasing population, and the yield for the labor unit was decreased. The soil became poorer under the unskillful hands. And with the decline of the rural people came the decline of the empire.

It is possible to increase the crop yields and not decrease the returns for the laborers who are employed. This is being done by many of the best farmers, everywhere. But it takes a high degree of skill to do that. Skill may be had through education. The amount of food that may be produced from a field, with a given amount of labor, depends mostly on the knowledge of the farmer. An increase in food production means an increase in learning in soil and crops management.

LET THE WATER PASS.

Much of the flood damage along the creeks in eastern Kansas could be prevented if the channels were cleared. The creek beds are obstructed with drifts of logs and weeds, and trees and brush are growing where the water should have a free sweep. Frequently the channel should be straightened, also.

Probably the best example of the beneficial effects of straightening a creek may be found on a farm west of Buffalo, Kan. The creek was cut across a neck of land, and the fall of more than a mile was put into one hundred yards. The land near the new channel never overflows, and the banks never have been more than half full when the water was out of the banks above and below the cut-off. There is no flooding of that section of creek. The expense of making the cut-off was about \$50.

A larger cut-off is being planned on the Fall river near Fredonia, where the fall of twenty-two miles will be put into about eight miles. This will prevent the floods on the bottom lands.

But even if the creek cannot be straightened, the carrying capacity of the channel may be increased, greatly, by clearing out the brush and drifts. This is a good time of the year to do such work. Usually the drifts may be burned without much trouble. Some fuel may be gotten from the pile, also.

Considerable fuel and poles may be cut along the sides of the stream. This timber which obstructs the stream flow is costing a great deal every year in the damage that it

A Golden Text.

No man can serve two masters: for either he will hate the one, and love the other; or else he will hold to the one, and despise the other. Ye cannot serve God and Mammon.—Matthew 6; 24.

causes, and winter's supply of wood must be cut somewhere. The timber may be gotten out of the creek without much extra trouble.

Clear the creek channels. They will have to carry the heavy spring rains, and if they are full of drifts and brush the water will be forced out on the fields. The crops and soil will be damaged if the land is overflowed. Use the ax and fire on the brush and drifts. It will pay.

F. B. N.

RURAL COMPETITORS.

The problem of the unemployed in the cities is caused largely by the boys from the farms. Young men from the country, who are not prepared for skilled labor, go to the cities because

Great successes will be made in farming in the future. The people must be fed, and food production is a desirable line. It is so superior to the life of the unskilled laborers in the cities that there is no comparison.

F. B. N.

THE STORMS OF '79.

Without referring to anyone or to what anyone has recently written or said, it may as well be understood, now, that the recent storms in Kansas, when the cold became excessive, were not by any means "the worst in the history of the state." They were not, by a long, long shot, as bad as the hurricanes, blizzards and other things that struck Kansas, in the western counties, in the winter of 1879-1880.

In those days, before many of the present indoor prophets had shaken their swaddling clothes—how long we've waited to use that term!—the cattle died by thousands along the Arkansas river, especially between Dodge City and Syracuse. The gifted Coburn had not spread his beneficent watchfulness across the state then, so the storms were called exactly what

If I Should Die To-Night.

If I should die to-night,
My friends would look upon my quiet face
Before they laid it in its resting place,
And deem that death had left it almost fair.
And, laying snow-white flowers against my hair,
Would smooth it down with tearful tenderness.
And fold my hands with lingering caress,
Poor hands, so empty and so cold to-night!

If I should die to-night,
My friends would call to mind, with loving thought,
Some kindly deed the icy hands had wrought;
Some gentle word the frozen lips had said;
Errands on which the willing feet had sped;
The memory of my selfishness and pride,
My hasty words, would all be put aside,
And so I should be loved and mourned to-night.

If I should die to-night,
Even hearts estranged would turn once more to me.
Recalling other days remorsefully:
The eyes that chill me with averted glance
Would look upon me as of yore, perchance.
And soften, in the old familiar way;
For who could war with dumb, unconscious clay!
So I might rest, forgiven of all, to-night.

Oh, friends, I pray to-night,
Keep not your kisses for my dead, cold brow—
The way is lonely, let me feel them now.
Think gently of me; I am travel worn;
My faltering feet are pierced with many a thorn.
Forgive, oh, hearts estranged, forgive, I plead!
When dreamless rest is mine I shall not need
The tenderness for which I long to-night.
—Belle Eugenia Smith.

common schools of Kansas next spring. Most of them will stay in the country and be farmers. They are deciding right when they make agriculture their life work. But they are not prepared to make the greatest success of the rural life. To gain the greatest success, they must understand the scientific principles that govern the management of soils, crops, and live stock.

Most of these young persons have studied the elementary facts of farming this winter. This knowledge will help, but it is not enough. Where can you get the knowledge that is needed? Probably the best plan is to go to a high school at first, and select, if you can, one that teaches agriculture. After you have been graduated from the high school you should come to the agricultural college and take a farm course along the line in which you are especially interested. You then will be prepared to do something worth while in agriculture.

You can't see that it would pay to take all of this time to gain more knowledge, and you don't believe that you need it anyway? Three-fourths of the positions worth while in this world are filled by college men, and yet not much more than one per cent of the people are college trained. Training has helped, you see. Untrained men have few opportunities in the world of affairs to-day.

But what are the graduates in agriculture doing? All who go into the government service start at \$100 a month and their wages are increased rapidly if they stay with the work. The demand for teachers of agriculture cannot be filled, and the wages are about as good as the government offers. There is an endless demand for farm managers, experiment station men, and the like, that can't be filled.

Yet most of the boys prefer to start into farming for themselves. Fourteen men will be graduated in the agronomy—the soils and crops—course at the Kansas State Agricultural College next spring, and only four of these will take up special work. Ten will return to the home farms. They know there is a future there.

The financial end of the proposition should not keep you away from the agricultural college. Most of the students there are working their way through, partly at least, and you can do the same.

Most of the farms of Kansas are not well managed to-day. New methods must be adopted if the state is to be in the lead in farming. Will you be a leader in this movement? F. B. N.

D. H. Local?

It sure pays to mention it in a paper when you have anything to sell. Ed Walton has sold all of his alfalfa seed and could have sold several times as much as he had. Mrs. Walton has sold all the Buff Rock chickens she had to sell and could have sold more. Yes, it pays to advertise.—Belle Plain News.

Soak new brooms in strong salt water before using. This toughens them and they wear better.

The House by the Side of the Road.

BY SAM WALTER FOSS.

Died Feb. 26, 1911.



HERE are hermit souls that live withdrawn
In the peace of their self content;
There are souls, like stars, that dwell apart,
In a fellowless firmament;
There are pioneer souls that blaze their paths
Where highways never ran;
But let me live by the side of the road
And be a friend to man.

I see from my house by the side of the road,
By the side of the highway of life,
The men who press with the ardor of hope,
The men who are faint with the strife.
But I turn not away from their smile or their tears—
Both parts of an infinite plan;
Let me live in my house by the side of the road
And be a friend to man.

Let me live in my house by the side of the road
Where the race of men go by—
They are good, they are bad, they are weak, they are strong,
Wise, foolish—so am I.
Then why should I sit in the scorners' seat
Or hurl the cynic's ban?
Let me live in my house by the side of the road
And be a friend to man.

they are dissatisfied with the rural opportunities. They are prepared for nothing that requires skill, and they can get only common jobs at very low wages. Usually they do not understand the cost of living in the cities, and they will work for wages that will not furnish a good standard of living.

The price of labor depreciates, and there is a congestion of labor far from the sources of food production. These hands are needed out in the country, and the wages they can make will furnish a much higher standard of living than they ever can get in the city. The cost of living is not so expensive in the country.

Much of the suffering and misery in Kansas City, and other large centers, this winter, never would have taken place if the city laborers had not had to compete with country hands.

What is the remedy for this condition? An extension of the campaign for rural education is the only solution. If the country boys do not see the opportunities of the rural life they will go to the city. Some will succeed, but most of them will work at unskilled labor all of their lives. For the city offers excellent opportunities to well-trained men, but not to the untrained.

they were: Blizzards of the worst type that ever assailed a helpless human being or an equally helpless brute. The state—thanks to Providence—has seen nothing like them for thirty years. There were times when it was not safe to try to get to the barn, fifty yards away. Riding, it was impossible to see the horse's ears. Milk cows on the range were ruined, their udders frozen. When the weather cleared, and the sun once more shone over the gloomy earth, ranchers and their children turned out and "skun" cattle for weeks. Many a boy—and some girls—earned vacation money from those hides.

No one, probably, ever knew how many thousands of cattle and horses perished that winter. It was not a winter over which one might become eloquent. It never would inspire one to stately verse. It was the terrible tragedy, only, that sank into the hearts and the souls of the suffering pioneers. There are a few of the hardy, mahogany-skinned relics of those days still to be found in Lakin and Garden City and other river towns, but they seldom mention the storms of '79.

A SENIOR, TO THE BOYS.

Many thousands of country boys and girls will be graduated from the

A HOUSE MADE NEW—\$600

THAT INCLUDED LIGHT, WATER, AND A HOT-WATER FURNACE.

A Hot-Air System of Heating Would Have Made the Cost About \$150 Less—Rental Value Increased \$10 a Month.

The rental value of a seven-room house in Manhattan was increased \$10 a month, recently, by the installation of electric lights, city water, and heat. The total cost of the changes was less than \$600, and more than one-half of this amount was spent for the heating plant. A student in the Kansas Agricultural College, whose parents own the house, told how it was done, recently. A good system of hot-air heating could have been put in for less than \$200, but a hot-water furnace seemed more desirable, so it was installed. This family, after trying it, is convinced that it paid to remodel their old house.

HOT-WATER FURNACE BEST.

The results were favorable to the hot-water system. The house was kept warm all the time with considerably less coal than the hot-air furnace had required. The fire did not need nearly so much attention, and the temperature did not fluctuate as it formerly had done. No one slept in the cellar and got up at 1 a. m. to rake over the coals and shovel in fuel. The water in the radiators kept the rooms warm after the fire was out, and the fire burned 10 to 12 hours when the drafts were closed. The saving in coal in a few years will more than pay the difference in cost.

The wiring and fixtures for electric lights cost about \$50. The fixtures were plain, but substantial. Tungsten lamps were found to be more economical when handled carefully.

Bathroom fixtures, a kitchen sink, a water tank connected with the kitchen stove, two water closets and a sewer connection were the other improvements. Sewer connections in Manhattan cost \$50 to \$75 to connect and fifty cents a month afterward. Where there is no sewer, a cesspool can be built for \$50 to \$100, the amount depending a great deal on the location of the pit and the nature of the soil. Water closets cost about \$32 apiece, a hot water tank \$10 to \$15, and a kitchen sink \$4 or \$5. The lavatory and bath, with the expense of putting in all of the fixtures, bring the total cost to about \$150.

A CISTERN FOR \$75.

If soft water is desired, a cistern holding 60 to 100 barrels will cost \$75 to \$100. In many places the cement can be plastered right on the dirt wall up to the arch. Some cisterns are dug so deep that the bottom is a yielding, watery clay. The best way to overcome this difficulty is to fill in stones and crushed rock, tamping them down until the bottom is fairly solid. A pipe from the cistern through the cellar wall, connected with a pump in the kitchen, will bring soft water where it is most needed. A good pump costs \$4 or \$5.

Exterior remodeling, while not so important to the persons living in the house, may increase the selling value more than enough to make it a paying proposition. Many old houses have no porches. A porch of some sort is a necessity nowadays. A sleeping porch is so regarded.

Two coats of cement plaster will cover an exterior in need of paint and repair. To put on this cement the old siding is first covered with expanded metal lath, and a first coat of plaster put on and allowed to dry. The second coat may be thrown on with a brush and left rough or troweled smooth like inside plaster. This will make the exposed surface durable and pleasing in appearance. The cost will be about ninety cents a square yard.

CONCRETING DONE IN WINTER.

Freezing Temperature Doesn't Keep Cement Mixture From Setting.

Concreting, when Portland cements are used, may be done during freezing weather, if low temperatures remain constant. Concrete will set while re-

maining frozen. The chemical interaction of the constituents is simply retarded until warmer weather. The important precaution to be taken is to keep equal the temperatures of the interior and exterior mass of green concrete. Tests have proved that these are facts, says H. M. Chandler, assistant in experimental engineering at the Kansas Agricultural College.

Chemical interactions usually are accompanied by the production of heat. Water is one of the chemical acting substances in the process of concrete setting, and is accompanied by a slight elevation of the internal temperature. This fact suggests the necessity of preventing a green wall from freezing too soon, because the external temperature will be reduced below the internal temperature by the evaporation of moisture from the exposed mortar while freezing dry.

If common salt be dissolved into the mixing water, the freezing point of the mortar will be depressed and will remain pliable while being used. When concreting is done during cold weather the sand and water should be brought to the proper temperature by heating.

KAMMEYER AND FLINT SPOKE.

The Science Club Heard Discussions of Wages and Cattle Feeding.

The Science Club listened to two exceptionally interesting discussions last Saturday night. J. E. Kammeier, professor of political economy,

The Epigram of a Girl.

"From a business standpoint, a six hundred dollar man who can save two hundred dollars a year is a safer investment than a fifteen thousand dollar man who spends it with no help."
—From "First Get the Girl," an editorial.

and P. N. Flint, assistant professor of animal husbandry, were the speakers.

"The Efficiency System in Wage Payments" was Professor Kammeier's subject. He described the system and told how it operates. Under this system a workingman receives a fixed wage and also a bonus if he does more than the standard amount of work required in a day's time. The system, the professor said, is being adopted widely in the factories of the country.

Professor Flint's address, a technical discussion, was on the subject, "The Protein Requirements of Growing Cattle." Though not a sensational subject, Professor Flint's talk was very interesting.

Peairs Made Head of Department.

L. M. Peairs, instructor in entomology at the Kansas Agricultural College, has been elected professor of economic entomology in the University of West Virginia. Until recently Professor Peairs has been at Hyattsville, Mo., where he prepared a bulletin on "Insects Injurious to Fruits." This will be published by the agricultural college in the agricultural education series. Professor Peairs began work in his new office March 1.

It is through association with others that the human will makes its most wonderful advance in freedom.

A piece of camphor kept with the silver will keep it from tarnishing.

A little salt in the water will keep flowers much longer.

ALUMNI NOTES.

S. W. Randall, '01, who has been doing civil engineering work since leaving college, has settled on a fruit farm at Buhl, Idaho.

Elizabeth (Sweet) Pitman, '04, and her little son, of Lewistown, Montana, were college visitors last week. They are making an extended visit at Mrs. Pitman's old home in Burlington, Kan. This is her first visit home since moving to Montana five years ago. Her husband, Tom Pitman, '04, is running an electrical supply house at Lewistown.

A MAN TO EVERY COUNTY.

THE "ADVISER" PLAN IS EXPLAINED BY DIRECTOR J. H. MILLER.

It Wouldn't Force the Officer Upon Every One of the State's Counties, but Only Where He Might Be Wanted.

The agricultural college exists primarily for the teaching of agriculture, home economics, and mechanic arts. The Kansas experiment station exists for the sole purpose of conducting experiments in soils, farm crops, live stock breeding, stock feeding, the growing of fruits and vegetables, etc., and experiments have been conducted at this station that have been worth millions of dollars to the state. The results of these experiments are published from time to time in bulletins and are mailed free to many thousands of farmers. Notwithstanding the very great value of these bulletins, a comparatively small proportion of the farmers of Kansas ask for and receive them. Naturally many who do receive the bulletins read them carelessly, and unfortunately only a few of those who read them carefully put into practice the recommendations made by the scientific men of the experiment station.

WHEN EXTENSION WORK BEGAN.

A few years ago the agricultural college began the development of what is now known officially as the extension department. The province of that department is to conduct farmers' institutes, movable schools in agriculture and home economics, agricultural trains, various kinds of demonstration work in crop production, pruning and spraying orchards, building concrete silos, building concrete bridges and culverts, supervising building of roads, supervising the drainage of farms, organizing of drainage districts, and the holding of hundreds of special meetings for the general promotion of agricultural education in the schools and on the farms.

The instruction offered at the college and the experiments conducted at the station and at the sub-stations and all the forms of extension work indicated, all of great value, are not yet exercising so vital an influence in farming problems as had been hoped for. If it is worth while to do any or all of these things, it seems to me that the next step is to provide for each and every county, as rapidly as possible, a county farm adviser. It would be impossible to establish such a system at once, as not enough competent men could be found. Nevertheless, the idea is worth considering, and I am eager to have the farmers and taxpayers of the state think over this proposition. I hope to have the frank opinions of many farmers as to whether in their judgment such an office is advisable and whether such an expert would be of agricultural value to the county.

OTHER STATES HAVE "ADVISERS."

This is not entirely a new proposition, not even wholly new to Kansas. Alabama has such a man in each and every county. Ontario has sixteen such men in as many counties, and four counties are waiting for the agricultural college to furnish such experts. Virginia has twenty such men at work, and other counties are waiting to find such trained men. In Atchison county, Kansas, the teacher of agriculture in the county high school is employed by the year and is expected, not only to conduct demonstration work on a ten-acre plot near the high school building, but his services are offered free to any farmer in the county for various lines of public agricultural service. A dozen other county and town high schools are offering various forms of extension service—testing cream, spraying orchards, short courses, holding farmers' schoolhouse meetings, etc.—but this must, necessarily, be limited to the time outside of school hours. A man whose whole time could be devoted to the public would be of much greater service. I wish, therefore, to recommend to the consideration of the farmers of the state a plan somewhat as follows:

Any county having a certain population and a certain tax valuation might have such a county farm adviser by presenting to the county board of commissioners a petition signed by a certain number of farmers of each township of that county. It should then become the duty of the said county commissioners to ask the agricultural college to select such a county farm adviser, and to direct his work. The county commissioners should provide for this adviser a suitable room, heated and lighted, either in the courthouse or a down-stairs room on one of the business streets. He should be required to be in this room or office Saturdays, and in that office he should keep the latest and best agricultural literature, agricultural charts, models of new tools, appliances, etc. On other days he would be expected to be engaged in visiting farms, orchards, dairies, etc., of the county, directing demonstration work with farm crops, feeding, gardening, etc.; in pruning and spraying orchards, supervising the building of silos, testing dairy cows, advising as to drainage of land, advising as to the planting of orchards and woodlots, improving the home grounds, the school grounds, etc. This county farm adviser would be expected to attend all general annual meetings of the various farmers' institutes in the county, and to hold each year at least fifty afternoon or evening schoolhouse meetings for the discussion of agricultural subjects. He would be expected to report to the college at once all special troubles, such as invasions of insect pests of field or orchard, live stock diseases, etc., and to make to the college monthly reports of crop conditions as well as to make weekly reports of his work.

SALARY PAID BY COUNTY.

The salary and all expenses of the county adviser would be paid by the county, the expense account items to be approved by the college. The salary should not be less than \$1000 a year, with \$100 a year allowed for use of horse and buggy and for livery, all other expenses not to exceed \$500 a year.

The county would not be expected to pay anything for the supervision by the college, nor any other expense for its district or other supervisors. This county adviser should have general supervision of all farm and garden work and stock management of the county poor farm, although this should not be a part of the law. It would be better in every way to have it clearly understood that the county commissioners are not to have any control or authority whatever over this county adviser.

Thus, it would be clear at the outset that the annual cost to the county need not exceed \$1500, although county boards could increase the salary of a good man, on their judgment, until the total cost might reach \$2400. Of course, they would never do this until the man had proved his usefulness. Any county having a population less than would be stipulated in the first provision of this law might be authorized to arrange with the agricultural college for a county adviser for only seven months of the year, March to October, on a per diem basis. The entire salary and expenses for that period need not exceed \$1000, or possibly \$1250. There might also be a provision in the law whereby two counties with a limited population could arrange with the college for an adviser to divide his time between the two counties, each paying its share of the expenses.

WOULD INCREASE CROP VALUES.

In my judgment, such a man could in three years add a hundred thousand dollars a year to the crop and stock values of the county. If, by his demonstrations, he could add five bushels a year to the corn yield, or ten bushels to the potato yield, or five bushels to the wheat yield; if, by his demonstrations, he could convince men that orchard insects and fruit diseases could be eliminated; if, by his demonstration tests, he could prove the worthlessness of hundreds of cows; if, by his demonstrations in feeding hogs,

(Concluded on Fourth Page.)

"MY HOUSE LOOKS JUST—"

THE CHEERFUL GREETING OF THE HABITUALLY APOLOGETIC WOMAN.

Her Dinner May be Nearly Perfect, but Still She Makes Excuses—You Know Her—Isn't She Unhospitable and a Bore?

Don't spoil your hospitality by making excuses. With too many women an apologetic state of mind when "company" comes is chronic, said a young woman student in the Kansas Agricultural College the other day. The peal of the door bell is the signal for apologies to begin.

"Don't look at this dirty room. I wasn't expecting anyone to come today, and I was too busy to clean it up." Haven't you heard these words of greeting almost before you were seated? Made you feel glad you'd come, didn't it?

THEN YOU FIBBED.

Yet you protested that the room is in perfect order, and a model of neatness compared with your own home. Of course you did. Your hostess expected you to. But you probably mentally resolved the next time you crowded a day's work into the forenoon and left the baby at a neighbor's while you tried to make a few calls before time to get supper, you would pay your visits to women whose welcome made your coming seem appreciated.

Nine persons out of ten would not notice the dust on the legs of the library table if the mistress of the house did not direct their attention to it by an apology. And the tenth person would much rather be made to feel his visit was a real pleasure to his hostess than hear just why it was the dusting was left undone.

Excuses are bad enough when there is really something seeming to call for one, but many women do not stop at that. The neater the house, or the more delicious the meal, the more profuse are the apologies, many times.

NOTHING "FIT TO EAT."

Every community knows the woman whose cooking would beat many a famous chef at his own game; whose table is crowded with delicacies; and yet, according to her own testimony, she never serves anything "fit to eat." A meal in her home calls for one continual succession of protesting compliments, until the zest of the occasion is dulled.

Of course it is the duty of a hostess to give her guests the best she has, but the real secret of hospitality is not in the apple-pie order of the house, or the quality of the food served. It goes deeper than external things.

It is found in a hearty greeting, a warm handclasp, and an atmosphere that seems to radiate a message, "glad to see you." And blessed is the hostess who has learned these things, for though her chairs be dusty and her gravy scorched her guests will be eager to come again.

NOT MUCH PLATINUM PRODUCED.

Few Persons, Perhaps, Know How and Where This Metal Originates.

The entire output of crude platinum in the United States is recovered from placer mines in Oregon and California, which also produce gold.

In 1910, according to Waldemar Lindgren, of the United States Geological Survey, these mines produced 390 troy ounces of platinum, valued at \$9507, against 673 troy ounces in 1909, valued at \$12,803. This decrease in value obviously does not represent the actual decrease, as the average price paid in 1910 was \$24.38 an ounce, compared with \$19 an ounce in 1909.

California's production in 1910 amounted to 338 troy ounces of crude platinum, valued at \$8386. Of this total, 304 ounces was recovered as a by-product in dredging operations in Butte, Yuba, and Sacramento counties. In Oregon the principal reported output comes from beach sands near Port Orford and near Bullards. The quantity recovered in 1910 was only 53 troy ounces, valued at \$1121.

Scraped raw potato applied to a burn will give quick relief.

CUT OUT THE SLANG, NOW

ALL THE KNOWING ONES BLAME THIS INFLUENCE FOR POOR ENGLISH.

Miss Ada Rice, an Instructor, Gives Some Pertinent Advice on a Subject that is Receiving Country-Wide Attention.

Everyone, almost, was talking spelling a few days ago, but now attention has turned to what the New York Sun calls the "execrably rotten English, you know" of students in this country, and the Baltimore American inquires, mildly, how "so many get through without more knowledge sticking to them." But they all lay the blame on slang—or a lot of it—and declare the boys seldom begin to speak "rotten English" until they start to school, where they acquire it from other boys.

GREATEST Foe TO ENGLISH.

"College slang," said Miss Ada Rice, an instructor in the English department of the Kansas Agricultural College, recently, "is the greatest foe to good English. It is the student's greatest handicap when he poses as a college man before the world, or tries to lecture and the right word or phrase fails him. But back of all these causes of poor English is the failure to realize the real importance and the use of language."

The problem is a very old one for the teachers of English. They have been talking about it for a long, long time.

"One hundred and fifty representative teachers met, recently, in Chicago," said Miss Rice. "They came from cities of the Middle West, to consider the causes of and remedies for the poor English of the secondary schools. They acknowledged that the subject of English is being neglected; that the results of the present instruction are unsatisfactory, and that something must be done to reinstate the study of our mother tongue in its proper place in the curriculum. If the statements of these teachers are true, we have not far to go to find the cause of poor English among our college students. The failure to lay a good foundation rests with the teachers of the elementary schools, for habits of speech formed in childhood cling to one even through one's college career.

WESTERNERS ARE TOO CARELESS.

"The importance of this foundation work cannot be too strongly emphasized; but the schools are not alone responsible for the poor English of our college students. The people of the West generally are careless in their use of language. The violation, for instance, of the simple rule of agreement of subject and verb is so common that its correct observance is often conspicuous. When I was in England a short time ago I was impressed with the correct English of the cabmen, the porters, and even the newsboys. It is true they had their provincialisms, their slang, and their peculiar enunciation, and even pronunciation, but they observed rules that forbade gross errors in grammatical construction.

"In Kansas, however, great and good as the people and institutions are, we find a sort of pride in the neglect of good usage. The general attitude is much like that of the college boy who said, when reprimanded for gross errors in his oral composition, 'Well, you understand what I mean, don't you? And if I make myself understood, isn't that enough?'"

"THE CRUDE IRREGULARITIES."

"The danger is, however, that if one is careless in speech he will not always make himself understood, and, moreover, such a one is not likely to make himself understood in written composition. The ear is very readily trained to detect discords, but if one constantly hears nothing but discords, one will soon cease to note the errors, and will, in turn, imitate the crude, common irregularities. I believe this is especially true of language, and I do not hesitate to assert that this is one of the causes of poor English.

"This condition, this atmosphere of

neglect of good usage, is the atmosphere in which the prospective student prepares himself for college. On entering, especially a technical school like ours, he has in mind the mastering of a certain field of science, the preparation for a specialty, and the subject of English does not seem to him of prime importance. His teachers of English have him under their instruction for so short a time that their influence is slight compared with that of his instructors in the scientific subjects. The final responsibility, then, falls, not upon the English instructors, but upon the instructors of technical subjects. Some of these teachers are particular about the oral and written English of their students, while others feel that attention to correct usage detracts from interest in the technical subject, and so neglect it altogether. Those who do insist upon correct English do so because incorrect usage results in illogical thinking, and in the sciences, especially, clear thinking is imperative. Thus they inadvertently apply Horace's sage advice:

"Seek not for words, seek only for clear thought. And then the words will trooping come unsought."

"Indeed, if all the instructors in scientific branches would do this much for good English, it would go far toward diminishing the number of gross errors."

A MAN TO EVERY COUNTY.

(Concluded from Third Page.)

he could double the gain in weight; if, by his demonstrations, he could prove that right feeding and care would greatly increase the milk and cream product; if, by any one of these things, he could bring about a general adoption of better methods, he would have earned his salary ten times over. Such a plan would be a fitting climax of all this work the state is already doing. If the college and stations and farmers' institutes are worth while, then this new plan should be adopted in order that the people may get the right returns from their already large investment. If any farmer sees any objections to this, or any criticism of the method of procedure, I hope he will set them forth. Let me close this article by mentioning one thing such a man could do that I did not mention in my other article. It is inevitable that the agricultural college must within a few years organize a sort of "clearing house" for all sorts of farm produce. This county adviser would then be able to report to us exact crop conditions and list with us cars of produce of all kinds, and we could assist farmers in finding a market. Such a plan would never be intended to handle stuff except when good markets are not found at the right time and at a fair price. The extension department of the college has in the last two years been able to assist in the marketing of many carloads of apples and possibly a hundred breeding animals. We keep lists of produce dealers in western Kansas and connect them with men in eastern Kansas who have apples, potatoes, etc. We keep lists of breeders of purebred sheep, hogs, beef cattle and dairy cattle and horses and serve as a medium of communication between buyer and seller. A county adviser could assist greatly in this work. I don't want to have this county farm adviser in any county until the farmers of that county want it.

J. H. MILLER.

Director College Extension, Kansas Agricultural College.

HOME HAS A NAME, NOW.

The Master of Woodlawn Proceeds to Order a Few Letterheads, Too.

A. W. Segerhammer drove to the county seat, one day last week, and had his farm named and registered and then came to Scandia and favored the Journal office with an order for 500 letterheads and 500 envelopes with the farm name printed thereon. Mr. Segerhammer is one of our progressive farmers and means to keep up with the times. His place will henceforth be known as Woodlawn Farm, and a very appropriate title it is.—Scandia Journal, Feb. 16.

NEW USE FOR POTATOES.

THEY ARE DRIED AND SHREDDED INTO VARIOUS FOODS.

Government Experts Are Studying the Process in Germany, Where It is Used Extensively—May Mean Potato Growing on a Larger Scale.

Dried potatoes make a very good feed for live stock. They have about the equivalent value of corn for cattle, horses, and swine. This material also is used in the manufacture of yeast, alcohol, and other products.

MADE IN GERMANY.

The desiccated potato industry now is confined almost entirely to Germany, where the process has been developed in the last five years. It is reasonable to suppose that the industry may be taken up in the western states, where the potato crop is large. Government investigators are experimenting in Germany to see if the process is applicable to the United States. If the industry is found practicable in the West, potatoes could be grown in rotation to prepare land for wheat and other grains. The same process also is used for drying sugar beet pulp, beet leaves, and other by-products. In Germany the sugar beet pulp is mixed with molasses and used as a stock food.

The process is carried on by two different methods—the roll system and the drum system. The first converts the potatoes into a product that resembles "Corn Flakes." It is also used in the household as a substitute for the fresh potato, besides being ground to flour and used in making bread and other foods by mixing with various flours. Drying reduces the weight of the potatoes about one-fourth.

HOW THEY ARE DRIED.

For all purposes except as a human food the drum system is used, because it can be operated at about one-half the expense of the roll system. In the drum method an iron shell about two and one-half feet in diameter and twenty feet long is used. Heated gases from the stove are drawn directly into the drum by means of a fan. Chipped potatoes enter the slowly revolving drum from the cutting machine, where they are exposed to the hot air. The drying action is best accomplished on a large scale, as the small drums are not so efficient. About 300 pounds of coke or its equivalent is required to a ton of potatoes. The labor requirement is small. The expense for production, including fuel, labor, interest on investment, taxes, and wear, is about \$1.30 for a ton of potatoes.

HEAT KILLS MILL PESTS.

Professor Dean's Method is Cheaper and More Thorough Than Fumigating.

Heat kills bugs. All you need, if you are a miller, is a heating system that will heat your mill from 120 to 125 degrees. There are five or six kinds of the sixty or more mill insects in practically every mill in the country. G. A. Dean, assistant professor of entomology at the Kansas Agricultural College, has been working for more than two years in an attempt to find a better remedy for destroying mill insects than has heretofore been used. Professor Dean, after making numerous experiments in various mills over the state, has found, in all cases, that a temperature of 120 degrees for a few hours will destroy every stage of the mill insects.

Here are some important points to be considered in the successful heating of a mill, which must be done in summer: To take advantage of the heat in the machinery, the heat should be turned on immediately after shutting down the mill. Stairways and elevator shafts should be closed, so as to make each floor entirely separate. It takes time to reach the desired temperature—118 to 128 degrees. This temperature should be maintained several hours to allow the heat to penetrate all the infested parts. Two or three thermometers should be distributed on each floor so the temperature may be kept even. There

HERE'S A CHANCE For the Teachers

Know about the Spring Term?
TWELVE WEEKS

A time to learn **March 22 to June 13** A time to study

Not long ago a school-teacher supposed she knew everything worth knowing—after a few years. She knows better now. The law changes things so radically, with such short notice. There was the statute about teachers taking an examination in elementary agriculture! Whoever supposed teaching would come to that? But it did. And here you are confronting the situation.

The Kansas State Agricultural College Was Ready for the Law

Not only did it turn out adequate text books for the teachers and pupils; it provided special spring and summer terms for them. Isn't that almost doing the duty before it was due?

Here's A Special Course for the Teachers:

SPRING TERM:

Agriculture	History
Home economics	Mathematics
Manual training	German
Education	Chemistry
English	Physics
Botany	Zoology
	Entomology

SUMMER TERM—Six Weeks:

Sixty-Five Special Courses for Teachers in:

Agriculture	Home economics	Manual training
History	English	Mathematics
Education and Sciences		

SEND FOR CATALOGUE

Henry Jackson Waters, President,
Box Q, Manhattan, Kansas

should be a water trap to draw off the water accumulating in the steam pipes. The steam should be turned on with 15 to 20 pounds pressure so that the mill will heat more rapidly. The steam pipes should be near the floor to heat the room best. Do not attempt to heat a mill on a windy, a cold, or a rainy day.

"The objection made by some persons that insurance companies will not permit the use of heat for this purpose is without foundation," Professor Dean said, a few days ago. "The objection that the system is not practicable because of the impossibility of heating in winter is one scarcely worth considering. No one is advocating the heating of a mill in winter. If a mill is heated during the latter part of the summer and all the insects killed, there will be no necessity for heating in the winter.

"The assertion, made by some, that heat will injure the belting, check the elevator legs and the woodwork of the bolters and purifiers is not true. In one of our experiments a mill was heated far above the required temperature—as high as 150 degrees for nearly thirty hours—and an examination showed absolutely no injury to any part of the mill or the mill machinery.

"The Hunter Milling Company, at Wellington, fumigated its 1500-barrel mill with hydrocyanic acid gas, summer before last. The expense of the fumigation was more than \$225, which did not include the shut-down of three days. Before the summer had passed the mill insects were again becoming abundant. Last summer, after installing additional radiation at an ex-

pense of not more than that of one fumigation, the mill was heated from Sunday morning until midnight. A careful examination the next day showed that no insects escaped death on the floors where the heat ranged from 115 to 130 degrees. No part of the mill was injured by the heat.

"In a mill, flour accumulates in recesses and insects breed in places inaccessible to the gas or vapor of any fumigating material, but heat passes through all of these obstructions and penetrates the innermost recesses. To fumigate with hydrocyanic acid gas requires from two to three days, and this long shut-down, with the additional cost of material, is a large item of expense, besides being dangerous to the life of the operator. With heat, since it can be applied from Sunday morning until Monday morning, there is no loss of time, very little expense, and no danger to the life of the operator."

700 Millions in Poultry.

The latest government report of poultry on the farms of the United States shows 295,880,190 fowls reported from 5,585,032 farms, with a valuation of \$154,663,607. These figures must not be taken as the sum total poultry business in the country, however, as there are many special poultry farms with large incomes, besides town poultry plants, which total largely; all of which, according to the estimate of the secretary of agriculture, would bring the whole business up to 700 million dollars.—Farmers' and Drovers' Journal.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, March 9, 1912

Number 20

SEED OATS SCARCE NOW.

PROFESSOR JARDINE ADVISES BUYING FROM NEIGHBORING STATES.

Be Sure the Seed is Good—Don't Plant Oats on Low, Undrained Land or on Soil That is Very Rich.

There will be a great scarcity of oats for seed this spring. Very little native Kansas oats will be available. Under these circumstances, W. M. Jardine, agronomist at the Kansas Agricultural College, believes that the best thing farmers can do is to get their seed oats from neighboring states where soil conditions are nearly the same as Kansas. Professor Jardine says that southern Nebraska, western Missouri, and northern Oklahoma are satisfactory localities from which to get seed, providing it is the desired variety, is free from obnoxious weed seed, and shows a high germinating ability.

THE BEST KINDS.

The four leading varieties of oats in Kansas are: Red Texas, which yielded an average of 51.01 bushels an acre on the college farm for five years—1905-1909; Sixty-day oats, with an average yield of 45.82 bushels for the same time; Kherson oats, which yielded 44.72 bushels to the acre, and Burt, with a yield of 41.39. These four varieties have a relatively high feeding value and their hardiness and productiveness make them the most profitable for growing in this state. The Red Texas variety is best adapted to southern Kansas. The Sixty-day oats and the Burt variety, being good drought resisters and very hardy, are adapted to the western half of the state. Kherson grows best in the northern part.

Oats grow better on loam or clay soils, according to Professor Jardine. This is because of the greater water-holding power of those two kinds of soils. Oats require more moisture than any other cereal, but they should not be planted on low, undrained land nor on very rich soil. If planted on too rich soil the growth is too rank. Ordinarily, less attention is given to the preparation of the seed bed for oats than for any other field crop. It is a common practice to sow oats broadcast on corn land which has not been given any preparation, but it is best to break the stalks and then double disk by lopping half or cross disking. Oats do best when sown in a rather firm seed bed with an inch or two of loose, mellow soil on the surface.

NO SPRING PLOWING.

Spring plowing for oats is not advisable, Professor Jardine says, because there is little time to allow the surface to become compact, and the land rarely is in proper condition to plow before the oats should be sown. If the previous crop was not a cultivated crop, then fall plowing is advisable. And the land should be double disked just before sowing in the spring. Oats should be planted just as early in the spring as the ground can be worked. The best time to sow varies with the locality. On the college farm the greatest average yield was obtained when the oats were planted before the first of April. Broadcast seeded oats gave best results when seeded at ten pecks an acre, and drilled oats at eight pecks. Usually there is a loss of about two pecks of seed an acre by broadcast seeding. At the college the broadcast seeded oats ripened nine days later and the straw was not so tall.

Drilling is the best method of planting, because less seed is necessary, the depth of covering is more nearly uniform, the seed germinates more evenly, and the growth throughout the season is better. Shallow planting is best.

While the oat crop is a vigorous

feeder and will do better on poor soils than most other grain crops, yet the judicious use of manures and fertilizers usually is profitable. Oats do best when grown in a rotation. The rotation should include corn one year, oats one year, wheat one year, and then cowpeas, plowed under while green. If barnyard manure is applied a year before the oats are sown there will be less danger of a rank growth of straw at the expense of grain production.

A DOLLAR A HEN A YEAR.

One to Four Hundred Hens Can Be Kept on an Acre.

You can clear a profit of a dollar a hen, a year, in poultry truck-farming. From 100 to 400 hens to the acre may be kept at a profit of \$100 to \$400. Annual profits obtained from dual-purpose stock amount to about the same by the acre as those derived from the keeping of egg breeds. Also, a good income is derived from the selling of breeding stock. Pure-bred cockerels of any standard breed are worth \$2.50 apiece. Brood hens, or good laying hens, readily sell for a dollar each.

The production of eggs for hatching purposes and the raising of baby-chicks are other sources of income in the poultry business. They are branches in which a poultryman may specialize. One man in Colorado has built up a baby-chick business that yields an annual net income of \$2000.

Five hundred chicks to the acre may be reared for the market and the replacement of inefficient laying hens. A half an acre more of land is required for the rearing of a proportionate number of breeding fowls. The laying hens and the breeding fowls will depreciate in value and serviceability. The inefficient ones should be culled out and their places filled with late March and April hatched pullets.

Hatchings, either by the incubation or natural method, generally average one-half pullets and one-half cockerels. Replacements can always be made from this reserve. Replacements of inefficient breeders and layers permit the annual disposal of the same number of fowls hatched in the year. Profits and success in poultry-farming are associated with such things as an incubator cellar, open-air curtain-front houses for breeding stock, colony houses for young stock, simple methods of feeding, intelligent care, and advertising.

LEARNING HOW TO SHOOT.

The Cadets Are Likely Soon to Join the National Rifle Association.

There are to be some crack marksmen at the Kansas State Agricultural College one of these days. The cadets are taking a lively interest in the daily target practice offered in the gymnasium. Also, Lieutenant Harbold is coöperating with the boys in an effort to obtain admission to a National Rifle Association. Cadets who desire to become members are being requested to sign a petition to that effect. Many have already signed and the number is increasing daily.

Membership in an association of this kind would give the cadets a chance to participate in local and interstate, and even national shooting matches, and would, Lieutenant Harbold says, tend to keep up the interest of those who would otherwise be inclined to lag or drop out of a purely local rifle organization.

Science Club To-Night.

The Science Club will meet to-night, in room 26 of the Physical Science Building, at 8 o'clock. The addresses will be: "The Rise and Influence of Bacteriology," by Leland D. Bushnell, and "A Jewish View of Jesus," by Max Ravitch.

FOR THREE \$4.65 A WEEK

GROCERIES FOR SIX MONTHS COST THIS FAMILY EXACTLY \$121.18.

That's \$20.20 a Month, and it Sounds Very Small Until You Read How the Deed Was Done—Doctor's Bill, \$1.80.

To The Kansas Industrialist:

Even the two-years-old son of our family realizes that THE KANSAS INDUSTRIALIST is gladly welcomed and eagerly read, and tries to twist his tongue around the long name when he sees the postman coming. The last number is particularly interesting. I quite agree with the writer of "Selfishness, That's All." The article responsible for this communication, however, is the letter from Daisy (Strite) Broom. It sent me to the family account book in search of the results of the application of principles learned at the Kansas State Agricultural College to prices and problems in this city, where everything seeks to be in keeping with the altitude.

TWO AND A BOY.

Two members of the family were away from home during part of May, June and July, so figures for the whole year could not be used, hence those for August, 1911, to January, 1912, inclusive, are given. These are for a family of two "grown-ups" and a boy now two and one-half years old:

Groceries for 6 months.....\$121.18
Average per month.....20.20
Or average per week (26 weeks).....4.65
Doctor and medicine (same period).....1.80

This included a quart of milk a day at 9 cents and two pounds of butter a week at 30 to 40 cents. Fruit in some form was a part of every meal, but meat, ordinarily, was served only once a day. Lettuce and celery were used very often, and expensive cuts of meat very rarely. All baking was done at home, and the fruit was home-canned, about half of the year's supply being put up in August and September.

The chief saving was effected through careful buying. Apples were bought by the box and considered one of the necessities, sugar by the dollar's worth, though part used in canning was left from the hundred-pound sack purchased the preceding January.

Many articles sold for ten or fifteen cents a package or pound were bought by the quarter's worth, thus saving a nickel. Not much, it is true, but five cents each on crackers, raisins, breakfast food, corn, macaroni and beans will buy three pounds of beef neck which, for our family, means soup, hamburger steak and, with the addition of a little fresh pork, a meat loaf, or a pot roast, followed in a day or so with hash or a stew.

THE REVIEW OF REVIEWS.

Perhaps in no other way has domestic science training helped more than in utilizing left-overs. Out of a promiscuous lot of "scraps" has come many a toothsome dish, the recipe for which might not be found in any book made, yet because of a knowledge of materials and principles involved, to the delight of experimenting was added the joy of assurance of the outcome.

A most important factor in the household system is the monthly estimate of expenses and accurate keeping of accounts. Husband and wife carry a five-cent account book, in which is recorded all money received and expended. At the end of the month it requires about an hour to classify the items, transfer totals to the proper column in the family account book, balance accounts, and make an estimate for the coming month, with a look ahead for insurance, payment on the home, or other large or unusual items. The estimate, with a liberal incidental allowance,

shows just what can be spent for the rug, picture, or books we've been wanting, and solves the "pocket-book" problem.

As to educating the children, our boy's K. S. A. C. fund was started about two and one-half years ago in the savings department of a local bank. We haven't missed the 50 cents a month, yet he could pay the incidental fees for several terms—if he was a Jayhawker.

MAY (HARRIS) BURT, '05.
Denver, Colo., Feb. 26.

FARMING, IN A NUTSHELL.

College Will Teach It in "Three-Day" Schools This Spring.

Now, where are the men who haven't time to go to the agricultural college to learn modern methods of farming? The ones that are too busy even for a three-months' short course at the college are wanted. A boiled down education which requires only three days to get is the latest offering of the Kansas Agricultural College. And the obliging college will come to you with it.

"Three-day" schools in different subjects will be conducted throughout the state, this spring, by the extension department of the agricultural college. There will be schools in live stock, corn and stock, dairying, poultry, and orcharding. Anyone can take the work. Experts on the various subjects will go out from the college and teach the schools. The instruction will be free. In a school lasting only three days a course in any branch of farming must, of course, be condensed. But a good deal can be told in that time about live stock, for instance. It won't all be telling, either; there will be practice work. In the live stock schools, for example, there will be actual judging of horses, cattle, hogs, and mules. Two hours every day will be devoted to lectures.

For those who enter the dairy schools there will be lectures on dairy breeding, silage, sanitation, feeding, and other dairy questions. Practice work in these schools will consist of judging dairy cows, testing cream, handling separators, learning the use of the Babcock test, and churning.

These schools will be held in March and April in the neighborhoods and towns which desire them. The college announces, also, that corn schools will be offered if enough applicants will agree to devote their entire time to it. But it is recommended that those especially interested in corn combine this work with stock judging in the corn and stock schools. Persons interested should write at once for dates and conditions to G. W. Conn, superintendent of farmers' institutes, Manhattan.

VISITORS FROM WASHINGTON.

The Veterinary Department Interests Dr. Farrington and Dr. Hickman.

Dr. A. M. Farrington, assistant chief of the Bureau of Animal Industry, United States Department of Agriculture, and Dr. R. W. Hickman, chief of the quarantine division of the same bureau, visited the veterinary department of the college, February 28, on a tour of inspection of the veterinary colleges of the country. They were much pleased with the facilities afforded for instruction and practical work in the veterinary department of the Kansas Agricultural College.

This institution is rated in Class A, or the class of veterinary schools having the highest standing in this country, whose courses of study are found to be satisfactory to the United States Department of Agriculture and the United States Civil Service Commission. Doctor Farrington and Doctor Hickman also renewed their acquaintance with Dean Webster, formerly chief of the dairy division of their bureau.

LIKE STRAWBERRIES?

Plow Early in the Spring if You Intend to Plant Some.

Better if the Ground Was Prepared Last Fall—When and How to Set Them Out—the Number Needed.

Don't forget the strawberries this year. Only a small space in the garden is required. By taking a little time, fresh strawberries can be had in the summer, and canned strawberries the remainder of the year.

The ground for strawberries should be fertile. Good grain ground is satisfactory. Plow as early in the spring as possible. If it was plowed last fall, so much the better. Pulverize the soil thoroughly, but never try to work it when it is wet. The ground should be leveled and packed after pulverizing.

GET GOOD PLANTS.

Get your plants from some reliable seed house. There are two general varieties in regard to the blooms. One has an imperfect bloom and requires some plants of the other variety with perfect blooms to fertilize the flower. The imperfectly bloomed variety, generally, is the more productive if properly handled. There are early, medium and late varieties. It is well to have some of all three to lengthen the season. Every person must decide for himself what he desires. Here are the number of plants required to set one acre for various distances:

18 inches by 3 feet.....	9,680 plants
18 inches by 3½ feet.....	8,297 plants
18 inches by 4 feet.....	7,360 plants
24 inches by 4 feet.....	6,222 plants
24 inches by 4½ feet.....	5,445 plants
30 inches by 4½ feet.....	4,978 plants
30 inches by 5 feet.....	4,356 plants
36 inches by 5 feet.....	4,148 plants
36 inches by 5½ feet.....	3,630 plants
48 inches by 4 feet.....	2,722 plants
48 inches by 5 feet.....	1,815 plants
48 inches by 7 feet.....	1,555 plants

Rows should be three or three and one-half feet apart. They can be wider. The distance to set the plants in the row depends upon the varieties planted. If plants are set early in the spring, from eighteen to thirty inches is enough in good seasons for average plants. Extra prolific plants can be set twenty-four or thirty inches apart and produce a good row. The poorer plants should be set from fifteen to twenty inches apart.

DON'T COVER THE CROWN.

The main object in setting the plants is to get the dirt firmly pressed around the plant, not only at the top, but down to the bottom of the root, so there will be no air space left causing the plants to dry out. Trim the roots to three or four inches in length, and be careful to set the plant the proper depth in the ground. No part of the root should be exposed. The crown should never be covered.

Cultivate your plants often. Begin soon after the plants are set and continue the remainder of the year. Where ground is packed hard, as soon as dry enough break up the crust. Be careful not to injure the plants. The vines can be dragged into place by the use of the cultivator. If the cultivation is done in one direction always, the space between the plants can be filled, then by narrowing the cultivation the row can be widened. The width of the rows should not exceed eighteen to twenty-two inches.

Everything possible is to be done with the cultivator, but a great deal of hoeing will have to be done. Keep the field free from weeds the entire year. Do not stop cultivation because there are no weeds.

Stronger plants will be produced if the blooms are cut off the first year, because the production of the berries stops the growth and consumes much of the vitality. A strawberry bed generally can be retained from three to five years if properly renewed and cultivated.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MARCH 9, 1912.

HARD LUCK, THIS.

We still have a large number of snow scenes, unused. The demand, however, has been so constant, this winter, that we prefer to wait for a chance to show summer views—of which we also have many.

We have contrasted the two seasons; we have shown them separately; we have versified and we have described in prose; we have done everything consistent and honorable to inform the public about the weather on the campus, and still not exhausted, wholly, the state's supply of cuts. But the end has come. If snow had not fallen again, a few days ago, we should have had another story to illustrate, this week; but the snow came. Such are the exigencies of rural, institutional journalism. We must now wait for weather to fit the cuts.

NO HELP FOR "MAW."

The servant question is not much discussed in a majority of country homes. In many it seems to be a foregone conclusion that the work the mother and children can't do must go undone.

A number of reasons, such as a large farm to pay for, new and expensive implements to buy, buildings to erect, no regular income, and poor crops, might be given for the neglect of this servant question. None, however, of which the women consider adequate.

The question of farm hands does not lack consideration by the farmer, and several men are often hired during the busy season. But too often no consideration is given the weary housewife.

Less money and more comfort are more compatible with good sense than more money and more drudgery. Life is too short to make its work a drudgery. Comfort, health and peace of mind are worth far more than great accumulation of wealth. S. E. D.

DON'T FORGET LIVE STOCK.

There is a disposition among Kansas farmers to "quit cattle, sell off the hogs, and get rid of the chickens," and settle down to grain farming. This movement should be stopped. The live stock industry must flourish, if Kansas farms are to be productive.

Beef cattle in the United States are decreasing at the rate of more than one million every year. The population increased 21 per cent in the last ten years. And the cattle ranches of the West are being broken up, which means that much of the beef in the future must come from the corn belt. The constantly decreasing supply of beef means an advancing price. There is a good opportunity, to-day, in rearing early maturing beef steers on small farms.

Phosphorus is very deficient in most Kansas soils, especially in the hardpan lands in the eastern section. It soon will be necessary to buy large quantities of this fertilizer in the form of rock phosphate. As phosphorus is found mostly in the kernels, grain farming has caused this need of commercial fertilizers, largely.

Grain and hay farming has done much to injure Kansas farms, and usually the profits have been small from this type of agriculture. On the prairie hay lands of the southeastern part, the crop frequently has been sold at a price that would not pay for the labor and the fertilizing elements that were removed. The hay usually would return more profit if it was fed to steers.

Beef cattle, if they are to return a profit, must be high class and they must mature early. Too many scrub animals are kept. Dairy cattle frequently are used for beef purposes. You can't be successful with such a herd. And that is where the breeders of pure-bred cattle should step to the front. It is to their interest to encourage the use of pure-bred sires, and they should conduct a more vigorous campaign along this line.

If Kansas rural prosperity is to be maintained, live stock production must be encouraged constantly.

F. B. N.

AN ANIMAL CENSUS.

More than 50 million hogs were on the farms of the United States last year. This was one-third of the world's supply. Germany ranked second, with 22 million head, and European Russia third with 11 million.

European Russia and the United States have the same number of horses, more than 20 million each. Argentina comes next with 8 million head. There are 95 million horses in the world. Of the 8 million mules in the world the United States has about one-half; and no other country has a million head.

The United States is second in the number of cattle, with 70 million head. British India is first with 91 million. Russia is third with 36 million. There are about 430 million cattle in the world.

There are more sheep in the world than any other class of domestic animals, with a total of 580 million head. Australia ranks first with 88 million head, Argentina second with 67 million, and the United States third with 57 million. Kansas has very few—probably 150,000 head.

In all, there are about 1260 million domestic animals in the world, and there are about 1600 million persons—men, women, and children. Therefore, there are about 80 per cent as many domestic animals in the world as there are human beings. In the last ten years the population of the United States has increased 20.52 per cent; the number of domestic animals has increased 10.27 per cent.

HIRE MARRIED "HANDS."

Efficient farm laborers are scarce in Kansas. The drift of the country boys and girls to the towns, and the movement of the farmers to the cheaper lands, west and south, has left many communities without enough hands to farm the land properly. In many cases, the most enterprising young people have almost all gone and only the less efficient are left behind.

Farmers do not have enough men, while there is a congestion of labor in Kansas City and the large towns of the Middle West. There is just one remedy for this condition, and that is to employ married men. Build a cottage on the farm, and allow the "hand" a cow, horse, and a truck garden. Pay good, living wages. If you do that you can get efficient laborers who will stay with you through the rush of the summer's work. They will be more contented, and will do better work, than the unmarried men.

Of course, such a system could not be employed on a grain farm, where the men are overworked a few months in the year and have little to do the remainder of the time. But that type of farming is passing in Kansas, and live stock farming is taking its place.

Married hired men would solve the problem of help in the farm home, largely. No farmer's wife likes to board a hired hand. No matter how proper the hand may be, the wife prefers to have only the family in the home. In case of illness or extra work, the wife and daughters of the laborer would be near to help in the farm home. F. B. N.

A Golden Text.

For whoso findeth me findeth life, and shall obtain favor of the Lord.
But he that sinneth against me wrongeth his own soul: all they that hate me love death.
—Proverbs 8: 35, 36.

MAKING DOLLARS FROM SCENTS.

Hoping, doubtless, to keep itself in good odor with the public, the esteemed Department of Agriculture in Washington has issued a few words about skunk farming. The proposition does not receive our sanction. To begin with, the department has neglected to supply figures upon which a city man, also, may base his arrangements for a backyard city skunk farm.

And why not? If it require one acre for fifty skunks, as Secretary Wilson gravely announces—and our private opinion is that he meant fifty acres for one skunk—why should not the bank clerk or the reporter or the mechanic have a little revenue-pro-

ducing flock or herd or drove of these fur-bearing creatures in his hundred-foot backyard?
One feature is especially attractive: Your neighbors' children would not be in your yard if you enter this business. Your milk bottle would not be stolen, and your ice box would be undisturbed. But you could not have chickens. The Biological Survey says:
"In the matter of food, the chief aim should be to supply a suitable and sufficient diet at a reasonable cost. A certain proportion of meat is necessary, but the animals eat also bread, green corn, clover, tomatoes, and many other vegetable substances. Butcher and table scraps given when fresh are the main reliance. The food should not be salted, and fresh water should be supplied regularly."
"Skunks are especially fond of insects, and if the pens are large enough and favorably placed, the animals will forage for a part of their food."

Meat is a wholesome staple food which we all like, yet most housekeepers at one time or another are interested to know about foods which will take the place of meat. Cheese naturally suggests itself for such uses, since it resembles meat in food value and is a savory food. Experiment and experience have shown that it can be thus used and that the daily fare may meet all demands as regards the nourishment it supplies and at the same time be economical. The bulletin may be obtained upon application to the secretary of agriculture.

The Farmer's Wife.

We hear and speak a great deal about the farmer. We call him the foundation stone of all industry, the original creator of wealth and the backbone of the country—especially when we wish him to vote for us or to buy another threshing machine; but the truth is, with all his merits, he is second fiddle to his wife. If there is any one class that this country should get down on its knees to it's the farm women. Whatever farm men have done the women have done—and more, also.

—The Saturday Evening Post.

THE FAME OF McKEEVER.

An Illinois Magazine Bestows Praise—A "Big Man" in Manhattan.

"There lives in Manhattan, Kan., a big man by the name of McKeever—W. A. McKeever. Why do I call him a big man? Let us find out together. There must be a reason. But first of all we must agree on the definition of big.

"You will remember the time when we used to think that man in the community biggest who lived in the largest house and was reputed to have the most money. We do not think that way any more. We now see that the biggest man is he who renders the greatest service to the greatest number. The biggest and best man is the most useful man, who does the most real, practical, standard-raising good work."

The foregoing, and several pages more just like it—only better—with a big picture of Professor McKeever, appeared in a recent number of the *Backbone Monthly*. This magazine is printed at Libertyville, Ill. It is edited by Thomas Dreier, who conducts it in a style about as free and independent as Elbert Hubbard in the *Philistine*. The article, of which only the introduction can be used, tells a mighty interesting story of Professor McKeever's work, particularly emphasizing its usefulness, and its importance to humanity in general, and boys and girls especially.

Even in the last century men felt compelled to apologize for writing about themselves; modern literature is autobiographical. Men now realize that the development of a human being is the most interesting thing in the world and that if they can tell openly and clearly the story of their own lives there are many who will find a deep interest in this.

To a girl, a moon without a man is like a mine of money on a desert island.

Keep an apple in the cake box and the cake will keep fresh much longer.

If I Should Die To-Night.

If I should die to-night
And you should come to my cold corpse and say,
Weeping and heart-sick o'er my lifeless clay—
If I should die to-night,
And you should come in deepest grief and woe—
And say, "Here's that \$10 that I owe,"
I might arise in my large, white cravat,
And say, "What's that?"
If I should die to-night
And you should come to my cold corpse and kneel,
Clasping my bier to show the grief you feel,
I say, if I should die to-night,
And you should come to me and there and then
Just hint 'bout payin' me that ten.
I might arise the while,
But I'd drop dead again. Ben King.

SUNFLOWERS.

Ever know anyone willing to sympathize with a fat man when he's ill?

One big business the farmers need to study: The business of being happy.

"Remove your fat my way," pleads an advertiser in the *Denver Times*. She can have ours.

The person who refers to the blizzard of ten days ago as a "flurry" will be found close to the stove.

You can't always determine the kind of a girl she is by the way her voice sounds over the telephone.

A woman's idea of a model husband is one who takes house cleaning philosophically and without growling.

"No one is useless in this world," said Charles Dickens, "who lightens the burden of it for someone else."

A fellow is likely to spend so much time building air castles that he won't have any time left to make his dreams real.

He who quits doing wrong, said some deep thinker, a long time ago, deserves more praise than he who never did wrong.

A man may be silent and pass for wise, said Opie Read, but put a pen into his hand, and how easy it is to be foolish.

Mrs. Brandby Wood can speak fifty-one languages, says the *New York Sun*. How'd you like to be Mr. Brandby Wood?

"Yah," said Old Bill Silage, "it's harder to raise cane on the farm than to do it in town, but it's a heap sight more profitable."

It's all very fine to have a motor car on the farm, but it has no right there while the wife continues to carry water, and the house is still without a bathroom.

Blanche.—We prefer to say nothing just now about the Ides of March. With present weather conditions the sentence really should be changed to "Slides of March."

What a shock it must have been for the old line lawyers, the judges and the politicians to read Beveridge's speech, in which the sacredness of the Constitution was shaken up!

Maud.—You were justified in throwing the plate at him. Any man who reads to his wife a piece telling how cheaply some other woman feeds the family, subjects himself to criticism.

We notice that Albert J. Beveridge spoke "By and large" in referring to Oklahoma, a few days ago. Now, if someone will please define this for us we shall forget our recent trip to Vesper.

It isn't hard to be religious in a comfortable home, a comfortable street car and a comfortable church. But ride seven miles north against one of Brother Coburn's snow "flurries" in Lincoln county and you'll feel the test of faith.

An exceedingly interesting volume, for vacation reading, has been received in this office, entitled "A Preliminary Communication on the Cytolytic Action of Ox-blood Serum Upon Sea-Urchin Eggs, and Its Inhibition by Proteins." We shall have something to say on this point a little later.

Once more the class is reminded that editors, or copyreaders, do not actually "Blue pencil" anything. Richard Harding Davis, who wrote "A Red Cross Girl," in *The Saturday Evening Post*, last week, ought to be more careful. He disturbs the orderly system of instruction, not to mention the traditions he shatters.

SET AN ASPARAGUS BED.

FIFTY "CROWNS" WILL FURNISH ENOUGH FOR ONE FAMILY.

Plants Should be Started from Two-Year-Old Stalks—April is the Time to Set Them—This Vegetable Easily Grown.

Well-drained, mellow, sandy loam is needed for asparagus. Land that has been used for garden crops is better than fresh soil. If it is possible, peas or clover should be sown on the ground the year before, and plowed under while the plants are still green. Use a subsoil plow in the furrow so that the ground is stirred fifteen to eighteen inches deep. Then rye should be sown to prevent the leaching of nitrogen, and plowed under just before planting time in the spring—the latter part of April.

TWO-YEAR-OLD CROWNS.

According to gardening experts at the Kansas Agricultural College, asparagus crowns are best for setting when about two years old. They can be bought from any seedsman for about \$1.25 a hundred. Cold and dryness do not hurt the crowns—the perennial part of the plant from which all the roots sprout, and from which the stalks come up—but too great bulk and too much moisture may cause them to heat. If they have been packed too tight and are moldy, do not accept them.

If they arrive in good condition, make ridges two or three feet apart, similar to sweet potato ridges, place the crowns in the bottom of the furrows fourteen to eighteen inches apart and pull down from the ridges dirt enough to cover them. After the stalks start, compost, which is rich, decaying vegetable matter, and soil from the ridges are added, leaving just the tips of the stalks outside, until the ground is level and the crowns are from eight inches to a foot below the surface. They may be planted twelve inches apart each way, in beds, if the space is limited.

An asparagus bed, properly cared for, will last several years. It is best not to cut any asparagus the first year after a bed is started. The second year a few cuttings may be made in the early spring, and the next year many cuttings may be made.

HOW TO CUT IT.

When asparagus is ready to cut, instead of cutting the stalks after they are out of the ground several inches, follow these directions: To a handle about a foot long a short knife blade should be fastened at right angles. Push this knife down by the side of a stalk, give it a quarter turn, and pull up the knife and stalk together. This knife avoids injuring the crown, does not cut shoots that are just starting, and gets all of every stalk. The asparagus, thus cut, will be bleached a light color, will be exceptionally tender, and will get to the market in the best possible condition. Cutting should be done early in the morning.

Asparagus is good only when it is tender. After the spring cuttings have been made the bed should be allowed to grow up. During the cutting season no stalk should be allowed to become old and woody, for the crown will immediately stop sending up stalks. After starting a bed it is easy to care for it. From fifty to seventy-five crowns in the home garden will furnish enough asparagus for a family.

ALUMNI NOTES.

B. O. Johnson, '11, is living at Mt. Vernon, Wash. He is assistant county engineer in Skagit county.

Effie Adams, of the class of 1911, is now teaching domestic science in the Rawlins county high school.

E. L. Hageman, '11, stopped in Manhattan, Wednesday. He was on the way to St. Louis, where he has a position with the DuPont Powder Company.

G. I. Thatcher, '10, was in Manhattan last Saturday. He will enter the United States army soon as a second lieutenant in the Coast Artillery Corps,

having recently passed the examination for that position. Mr. Thatcher will be stationed at Fort Monroe, Va., after March 20.

Comparing the art of landscape gardening to Cinderella as the neglected sister of the higher arts, Fred Walters, landscape gardener at the Girls' College, entertained the members of the Cosmopolitan Club last night, giving a synopsis of the development of the art during the past few years.

Mr. Walters paid particular attention to the civic and healthful benefits of parks and landscape gardening. After his address the members of the club voted to instruct Mr. Walters to make a survey of this city with a view to the establishment of a system of parks. This survey will be reported back to the club and from this will be sent a report to the park board of the city.—*Chickasha Daily Express.*

Fred Walters is a graduate of the class of 1902, a son of Prof. J. D. Walters, of the Kansas State Agricultural College.

COLLEGE CONCERT MARCH 12.

The Orchestra's Annual Appearance in the Marshall Theater Tuesday Night.

The college orchestra will give its regular, annual concert, next Tuesday, March 12, at the Marshall Theater. The orchestra consists of 40 players, and is a complete and exceptionally well-balanced organization. Miss Ethel Ping, of the piano department, will be the soloist this

For an Acre of Corn.

The Bank of Alma will give a prize of \$100 for the best acre of corn grown in Wabaunsee county the coming season. No one will be barred except the Stuewe boys. The conditions have not been fully determined yet, but will be when the executive committee of the Farmers' Institute meets about the first of April. Further particulars will be given later.—*Alma Enterprise.*

year. She will play a concerto for pianoforte and orchestra, by Schumann.

The "heavy" music will be interspersed with some selections from the late musical comedies, such as "The Pink Lady," "Chocolate Soldier," "Spring Maid," and others.

Of course, the feature of the program is the Symphony No. 5, Beethoven, but there are other attractive numbers, such as "Tannhauser," and various selections from other operas that will please all. Prof. Robert H. Brown will conduct.

The management wishes to announce that the music will begin promptly at 8:15 p. m. The program:

Overture—"Rosamunde".....Schubert
Symphony No. 5, G Minor.....Beethoven
Allegro Con Brio Allegro (Scherzo)
Andante Con Moto Allegro (Finale)
NOTE.—There is no pause between parts three and four.
Concerto for Pianoforte, A Minor, Opus 54.
First Movement. Allegro Affetuoso.
Intermission.

Operatic Fantasie.....arr. Tobani
Nocturne, "Liebestraum".....Liszt
Selection from "Tannhauser".....Wagner

Conservation of Natural Gas.

The much discussed waste of natural gas is stated by the United States Geological Survey to be rapidly decreasing. The problem of conserving the natural-gas supply may be considered as having been satisfactorily solved in Pennsylvania, throughout the Appalachian and the Lima-Indiana fields, and in Kansas. The greatest waste is in Oklahoma and in the Caddo field of Louisiana, owing in Oklahoma to probable looseness in enforcement of the laws and in Louisiana to lack of a market. It is noteworthy that one of the two wild wells in Louisiana that have been sensational examples of waste have been successfully closed and the gas thus conserved for future use.

Torn-up bits of newspaper and soap suds will clean the water bottle beautifully.

A ROOM FOR PLAY, ONLY.

IN THE ATTIC OR BASEMENT WOULD SUIT THE CHILDREN.

There Wouldn't be so Many "Don'ts" if the Younger Set Had a Place to Romp—Only a Few Furnishings Needed.

Children should have a playroom. In too many houses this very important feature is overlooked. To be sure, there is a parlor for the grown-ups of the family, where they may find rest, recreation, and entertainment, but the children must "just play anywhere, only don't go to the neighbors", and don't scratch the dining room chairs, nor muss up the beds, nor scatter blocks on the kitchen floor. Don't bring the dog in the house—he's sure to chew up the lace curtains in the parlor. And you must play indoors because it is muddy." It doesn't leave much of a margin for the little ones to enjoy.

LET THEM PLAY.

Give them a room where they may take their dog and mud and playthings; where they can play Indian, for they all have some of the Red Man's spirit. A corner of the garret will do if nothing better offers itself. If the boys are big enough, put a punching bag in one corner and some of the simpler gymnasium apparatus, as tumbling mats, Indian clubs, and trapezes. Of course, you'll have all the neighbor boys over practicing stunts. But that's all right. It's better to have them giving a three-ring circus, up-stairs, six nights out of the seven, than smoking cigarettes down the alley. Let them have a machine for throwing pictures on a screen.

Give the children a place for their books in the playroom, so they may feel that their books are their own. There is something very personal about books; they make up such a large part of you—what you think and speak, and what you are. This should be encouraged in children. Try it, and see if the children won't take as much pride in their books as they do in their hair ribbons and marbles.

If the children haven't reached the punching-bag and book stage yet, they had better have a room downstairs, where mother can look in occasionally. Every little boy and girl loves animals. If the room could be papered with an animal border or panel effect the walls would prove a source of never-ending joy. Then, there might be curtains stenciled in a design to match the border.

AND PICTURES, TOO.

The floor should be covered with something easily cleaned and durable. Linoleum might serve, although rugs of grass fibers would be preferable, as they are warmer. A big box to hold playthings should occupy one corner and another big box for sand could stand in another.

And don't neglect the pictures in the nursery. Don't think just anything is good enough. Don't hang up the gorgeous daubs that came with a year's subscription. Get good prints of good pictures of things children are interested in. There are lots of animal pictures—dogs and cats and horses—painted by artists such as Landseer and Bonheur. Any of these will delight and instruct the child. There are many good pictures of child life which children should love. Anyone can select pictures if he will put a little thought into the matter. It is a detail which is important and well worth the time.

TRUE, OF '99, DISSENTS.

Here's a Chance for a Fine, Lively, Glacial Controversy—Next!

The Kansas Industrialist:

I have just been poring over the issue of February 24 and note what some one says about the glacial map. I wonder if this was based on the writer's personal recollections or his personal observation? If he was here at the time, I have nothing more to say; but if he wasn't, I should like to add to his points, that I have scattered myself over the state a little in

one cause or another, and believe that the largest single collection of "niggerheads" in Kansas is on my father's farm in Wabaunsee county, twelve miles south of the Kaw river. It covers about 40 acres and is a mound rising probably 200 feet. The upper half is so solid a mass of these "lost" rocks that it is impossible to dig a post hole anywhere with any ordinary digging tool. Just a few weeks ago I saw quite a number of these "niggerheads" as far south as Hamilton, in Greenwood county. The general history of the glacial period as recorded I swallow, pins, feathers, and hair, but that the Kaw river came anywhere near putting a stop to the ice flow, I can't believe. O. S. TRUE, '99.
1415 Buchanan street,
Topeka, Kan.

The Concrete Silo.

Silos made of concrete are the most successful. Although this type of silo costs a little more in the beginning, it will outlast the stave and other wooden forms.

Concrete silos, when properly built, are both air- and water-tight, so they will not shrink in hot, dry weather nor swell up when it is damp. Concrete is a good nonconductor of heat, thus a more even temperature is maintained in the silo. The silage acids act on wood and metal, but they have no effect on concrete. Besides these advantages, concrete silos are fireproof and will last practically forever without repairs.

The silo improves the financial condition of farmers, and what farmer is there who wouldn't like more money? This prime factor in modern agriculture is not the sum total of success in itself, but as an adjunct to successful and profitable farming its value cannot be overestimated.

A good dairy community is judged largely by the number of silos, and wherever stock is raised there you will find the silo.

The building of a silo is not a speculation by means of which you can get something out of nothing, but it is a good, sound business proposition. Our successful dairy-men and farmers praise it. Why? Because it has made money for them and brought more enjoyment to them in their work.

You owe it to yourself and to your community to make the most out of your opportunities, and the silo is the big opportunity for the farm. It is an innovation for better and more scientific agriculture in general; it stimulates its owner to see what good and far-reaching results can be obtained from his new system of management.

You have cows, you feed stock, then you need a silo. It is worthy of your best thought and consideration because it is a profitable investment.

Absorbs Odor.

When boiling a young cabbage or cauliflower, a piece of bread or a crust should be tied up in a little muslin bag and dropped into the pot, says the Chicago *Inter Ocean*. This will obviate to a great extent the smell of cooking, which often pervades the staircase and passages of a small house.

When cutting fresh bread, dip the knife in hot water.

Put a little sand in the tall vases to keep them from tipping over.

Every invention is an instrument through which the human will reaches out toward the mastery of nature.

WHERE WORK IS NEEDED

STALLIONS SHOULD NOT BE ALLOWED TO LIVE ALWAYS IN IDLENESS.

Once Put Into Harness, and Properly Cared for, They Will Earn Their Living Cheerfully—Too Much Pampering in America.

Work the stallion. A horse must have exercise to keep him in the best physical condition. The stallion is full of ambition and energy.

"Lack of exercise, with high feeding, is the cause of 75 per cent of poor foal getters," said Dr. C. W. McCampbell, assistant in animal husbandry at the Kansas Agricultural College. "Exercise stimulates and strengthens every organ and function in the body. It is very essential in keeping the animal in good condition. The best kind of exercise is honest labor in the harness. Working the stallion not only improves his health, but makes him more easily handled."

In beginning to work stallions, it must be remembered that the average American stallion is more or less pampered and is therefore soft and fat, and must become accustomed to work. After he is once accustomed to work he can do more than any other horse on the place.

Most stallions may be worked with either mares or geldings if proper precautions are taken. J. G. Arbuthnot of Cuba, Kan., works two stallions together as a team all the time. Many other Kansas stallion owners are learning to appreciate the value of good, hard work for the stallion.

If the keeper has no work for the stallion, he should drive him from four to eight miles every day, in and out of season. The animal should be allowed to rest for an hour before breeding. Some owners work their stallions only half a day at a time during the season, and patrons, knowing that, come at the time when the animal is not working.

DEATH COMES TO MISS MACK.

For Many Years She Had Served the Kansas Schools—Faculty Action.

Miss Margaret A. Mack, for five years an instructor in the department of history and civics in this college, died last Sunday of paralysis. Miss Jessie A. Reynolds and Miss Anna W. Gordon, assistants in the same department, represented the college at the funeral Monday, at Wilsey. The teaching staff in the department and the faculty sent floral tributes. This memorial was adopted by the faculty in the meeting Monday afternoon:

In the death of Miss Margaret A. Mack, the college has lost a faithful teacher, the department of history a successful and earnest instructor, the students a wise and sympathetic friend, the community a noble and high-minded woman. For nearly twenty-five years, as teacher, principal, superintendent in the public schools of Kansas, and for the last five years as instructor in the department of history and civics in this institution, she rendered a service to the state whose value no man can measure. Genial in spirit, dignified in bearing, appreciative of the work of others and severe with her own, she exerted an influence wide, deep, and beneficent, on two generations of students—an influence that will be felt for good through many coming years. Her loss is deeply felt and will be long mourned by her fellow teachers. Her associates on the faculty take this means of expressing their appreciation of her character, and their sorrow at her loss. We request that a copy of this memorial be sent to the family, and that a copy of the same be spread upon the minutes of the faculty.

RALPH R. PRICE,
CLARK M. BRINK,
J. W. SEARSON,
Committee of the Faculty.

Or "We Adore."

To The Kansas Industrialist:

Harper's Weekly suggests a slogan for the coming campaign, "Theodore and Pompadour." Why not make it "I adore Theodore and Pompadour?"—*Old Voter.*

Professor Price a Judge.

Professor Price went to Salina, yesterday, to serve as a judge in an intercollegiate debate between Ottawa University and Kansas Wesleyan University.

When cutting fresh cake, use a fork for cutting. This is well to remember when cutting hot ginger cake.

--- Let Me Have Your --- Wasted Hours

Possibly YOU think YOU do not waste any. Just keep tab for four days and you will be surprised. The average man wastes more time in ten years than he would need for getting a college education. Why should any man remain ignorant of the great field of **Agricultural Science**?

Study at Home

The Kansas Agricultural College offers courses by correspondence in more than TWENTY SUBJECTS relating to AGRICULTURE and HOME ECONOMICS. It employs a Director of Instruction whose business it is to direct the methods of teaching by correspondence and to develop ways of giving instruction to those who are not able to attend College.

Courses Are Offered In---

Elementary Agriculture, Farm Crops, Soils, Stock Feeding, Poultry, Farm Dairying, Butter Making, Fruit Growing, Vegetable Gardening, Floriculture, Landscape Gardening, Drainage, Concrete Construction, Road Making, Elementary Woodwork, Farm Buildings, Cookery, Sewing, Household Management, House Sanitation, Vocational Education, Rural Sociology, Animal Breeding, Forestry, Injurious Insects, and several others.

**SEND FOR SPECIAL PAMPHLET.
LET ME HAVE YOUR WASTED HOURS.**

Director College Extension, Box G.

**Kansas State Agricultural College,
Manhattan, Kansas**

FIRST CALL FOR SEEDS.

March is the Time to Plant the Early Vegetables.

Better start your tomato and cabbage seed indoors next week. Lettuce, also, may be planted in the seed-box for early use, or it may be planted outside as soon as the ground can be worked. Nearly all vegetables can be started in March as soon as the ground can be put in good condition.

Many vegetables can be planted earlier than they usually are, and grown at home. The beet and carrot are frost hardy and may be sown as soon as the frost is well out of the ground. The soil must be well firmed around the seed. It is better to plant thick, and thin out the plants later on. Carrots should be covered very shallow, as the seeds are light. Parsnips—the slowest small seeds to germinate—spinach and parsley are all early vegetables. Pea, radish, turnip, onion, and potato seed all stand considerable frost. Asparagus may be set out any time now. It is better to buy one- or two-year-old plants than to plant the seed.

Each of these vegetables has been planted as early as March 20 in past years by the horticultural department of the Kansas Agricultural College, and good results were obtained. All of the root crops demand a well-drained and fairly rich soil. They must have frequent and thorough cultivation so there may be no check in growth, as this injures the quality.

FARMERS WRITE FOR ADVICE.

The Agronomy Department Alone Gets About Eighty Inquiries Daily.

The farmers of the state are awakening to the need of better agriculture. As a result, the agronomy department

of the Kansas Agricultural College is one of the busiest places on the campus. An average of about sixty letters a day, and sometimes eighty, are received by this department. They are from farmers, inquiring about every conceivable thing pertaining to farm practice—how to grow crops, where to get good seed, how and when to plant certain crops, and all such practical questions.

The correspondence is heavier this year than last, says William M. Jardine, professor of agronomy, and that is a hopeful sign. It shows that the farmers have confidence in the college, and are planning ahead and manifesting an interest in better farming. It also shows they are taking advantage of their idle time, which they all have in abundance during the winter, and that they are putting their farming on a business basis.

Searching for Potash.

To develop more thoroughly the fertilizer and potash resources of the United States, Secretary Wilson of the Department of Agriculture has established at Reno, Nevada, a laboratory for the examination of natural material thought to contain potash. The laboratory has been organized under a cooperative agreement between the Mackay School of Mines, the bureau of soils, and the United States Geological Survey. The laboratory is in charge of Prof. George J. Young of the Mackay School of Mines and A. R. Merz of the bureau of soils. Facilities have been provided for the examination and assay of all potash-bearing materials, and of saline waters and minerals. The laboratory will be at the disposal of the public free of charge.

DENMARK WILL BE GAY.

A RURAL CENTER BUILDING DEDICATED IN THE DANISH SETTLEMENT.

Vesper's Country Neighbor Has Its Loneliness Dispelled in a General Get-Together Policy—Entertainment for Old and Young.

The Danes along Spillman creek, in Lincoln county, are showing the Americans how to get together, just as the Danes in Denmark have been showing the whole world. In the Danish settlement called Denmark, a few miles north of Vesper, they have spent \$2000 for a community meeting house. This is the kind of structure preachers and editors and rural uplifters have been suggesting for several years. The Danes have built it. It was dedicated last Saturday night by a representative of the Kansas Agricultural College, sent by Prof. E. L. Holton, the head of the department of rural education.

200 FAMILIES THERE.

The Danish settlement along Spillman creek contains about 200 families, or approximately 1000 persons. It was established about 1871. Some of the young Danes formed the Danish Social and Benevolent Association

Reward.

*Alike on just and unjust falls the rain,
On worthy and unworthy shines the sun,
But very gift descends with blessings twin
On those that merit it by work well done.*
—Lee Shippey.

last fall. J. B. Nygard, a graduate of the Kansas Agricultural College, class of 1905, was elected president; Miss Julia Rasmussen, secretary, and A. F. Morgenson, treasurer.

The association started with 160 charter members and a subscription list of \$2000 and the labor free. The hall is an excellent frame building, fitted with an acetylene plant. It has a stage and scenery for five drops. A gallery at the opposite end of the hall was erected principally for use when basket ball and other games were in progress. The hall will seat 400 persons. It has an excellent dancing floor. In the basement is a kitchen and a dining room and a heating plant. The Ladies' Aid Society of Denmark will furnish what is needed in the kitchen.

AND A BAND, TOO.

Attached to the hall as a part of the membership is a brass band of 25 pieces and an athletic club in which Ed Larson, a graduate of the Kansas Agricultural College in 1911, is a leader. In the next two weeks the people in that farming community are to be entertained with a stereopticon lecture, a basket ball game, and a dance.

CARRIE NATION'S WAY BEST?

Anyway, That Was the Opinion of the Judges Friday Night.

The annual oratorical contest of the Intercollegiate Prohibition Association was held in the college Auditorium, Friday, March 1. The contestants were Southwestern College, Baker University, Miltonvale College, Washburn College, Kansas Wesleyan University, and the Kansas State Agricultural College. The schools were represented by J. Fuller Groom, G. B. Van Buskirk, C. W. Dow, Benjamin Franklin, C. J. Boddy, and E. A. Vaughn, respectively. The speakers proposed various solutions of the liquor problem, and Benjamin Franklin's "Carrie Nation solution" was said to be the answer above all others, by the judges who gave him first place. C. J. Boddy, of the Kansas Wesleyan, advocated a new political party as the remedy, and was placed second.

The prizes were \$25 and \$50. The winner of a state contest goes to the interstate contest, which this year is to be held in one of the northern states. The winner of the interstate is sent to the National contest at Boston.

A brighter window will result if no soap, but a few drops of kerosene, is used in the water.

WINTER - TIME -

:: IS ::

Reading Time

For the Family on the Farm.

Give father and mother, and the boys and girls, something to read in which they are interested and your own fortunes will prosper more.

They have the time, now. They'll be busy in the summer with their crops.

**Do You
Understand Publicity Like This?**

It is not advertising. Don't make that mistake, Mr. Editor. It is taking information to the persons who need it most. And that is exactly what newspapers are for, isn't it? It is taking facts to the farm that the farmer and his family cannot get in college because they have no time to go there.

We Are Sure of Our Facts.

Every article sent from Kedzie Hall to the newspapers of the United States, either for exclusive use or in the "Plate Service," is authenticated before it leaves the office. That makes the farm articles from the Kansas Agricultural College invaluable. Write us about them.

**Do You Read
THE KANSAS INDUSTRIALIST?**

If you are a graduate of the college, a newspaper man with a liking for "Time Copy," a state officer, or the head of a farmers' institute, and are not getting this little paper you are missing some good things about Kansas agriculture. If you do not belong to any of those classes you can get the paper by subscribing. Don't forget that.

It is quoted from New York to San Francisco. It is regularly clipped by more than 1100 newspapers and 110 farm publications. It is read in eighteen countries. And it costs fifty cents in Kansas, seventy-five cents outside. : : : : : : : :

**THE
Kansas Industrialist**

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, March 16, 1912

Number 21

SMALL HATS, GLORY BE!

LATER IN THE SUMMER, BUT NOT RIGHT NOW, THEY'LL BE LARGER.

Of Course, for Dress Occasions the Girls' Heads Will Require Much Space—Still There's Hope for the Men.

Many girls are worrying about what the styles in hats will be this spring. It is a large question, isn't it? One good thing which the street car conductors, and all men, for all that, will be glad to know is that the hats this spring will be small, especially the earlier styles. Large hats will be worn later on in the summer. Large hats will also be worn for dress hats in the spring, but for the most part, hats will be small.

The newest style turns up from the face; some will be rolled back, others turn straight back. This will be a change that all girls will welcome, as the hats have turned down over the face for sometime, and they have not only missed many of their best friends in public places, but have, also, been classed as bad "risks" by the insurance companies. Many a pretty girl, in train robber hat, has blushed unseen, the last year or so.

MUCH USE FOR LACE.

Flowers and lace will be used to a great extent for trimming. Flowers are always used, but lace will be used more this summer than ever before. One of the latest styles is to cover the hat entirely with lace, another to have a laundered top with lace underneath. Small lace ruffles will also be used. Large bows will be used to some extent, but not so much as usual. Other materials will be used more than ribbon.

Chiffon is another material that will be used, especially for summer hats. Chiffon with lace will be used extensively.

The styles this season will vary considerably. There will be, as far as known at the present time, no extreme style.

Embroidery hats will be worn again. They never go out of style for summer wear. A very pretty hat is one with an embroidery top and lace underneath. The embroidery hats always take well because girls can make them more easily themselves.

MAKE YOUR HAT.

Most all girls have a desire for making their own hats. Any girl can make her own hat if she has the material and knows how to use it. The latter is the most important. It is easier for some girls to learn to make their own hats than others, but any girl can make her own hat if she has the desire to do so. Embroidery hats are perhaps the easiest hats for most girls to make.

Many girls here in college make their own hats in the millinery class. They save a large expense by so doing, and get the style of hat they desire. Frame hats are made by first fixing the frame, then sewing on the straw, and facing with satin or whatever material is used. Many of the frames are covered with lace, which make very pretty and dainty hats.

THE THIRD CONCERT.

An Excellent Program Well Played and Very Much Enjoyed Tuesday Night.

Ordinarily the review of a symphony concert would begin with a few staid reflections with respect to the imperishability of the works of the great masters. But in this instance it must be recorded that, taking these great works for granted, the treasured heritage of years, the most wonderful thing about the third annual concert of the College Orchestra, last Tuesday night, in the Marshall theater, was the exceptionally fine ensemble effects obtained under the direction of Prof.

Robert Henry Brown, the conductor. Such effects, produced by an old, established, professional organization, would merit only a little more than passing tribute; but given by a college orchestra, where frequent changes make it impossible to depend upon the members as a unit, the entertainment was worthy the careful attention of even the most blasé critic.

Professor Brown has achieved extraordinary results in his work. Some of his staff have been with him three or four years, but not many of them. To maintain the standard he has set has required the most painstaking, personal direction, combined with unusual patience and determination. The concert, Tuesday night, and the spontaneous demonstrations by the audience, should convince Professor Brown that he has succeeded. There were few evidences of amateurishness. The whole work was thoroughly good and thoroughly enjoyable—and it was quite fully valued by every listener, if applause at the proper moment counts for anything. "The Pink Lady" selection, given as an encore number, was welcome in a rather heavy group, and set young heads swaying. Miss Ethel Ping's playing of the Schumann number, Opus 54, was an especially enjoyable feature of the concert.

Turning, for just a moment, from the strictly artistic viewpoint, it should be here observed that the Kansas Agricultural College loses a mighty fine proof of excellence, in at least one of its departments, in not having this orchestra go to Kansas City, and to other centers. It would have nothing to fear. This orchestra is a credit to the college. C. D.

THE JOYS OF POMOLOGY.

Fruits From Florida and California for the Students to Study.

The horticulture department has received a box of fruits from Florida to be used in the senior pomology class. The box contained kumquats, grape fruit, several varieties of mandarins, sweet oranges, rough lemons, and native seedling oranges. The department gets fruits from California and Florida. A box of California fruits is expected to arrive next week.

The boys like the work in this class—except when they are required to eat the lemons—and there is an unwritten law that every man must eat everything he describes. The course was started last winter. Seniors and graduate students may take it. Most of the men have had two terms of pomology.

The Why of a Silo.

Silos increase in number in direct proportion to the increase in the price of land. There is a reason for this. Three acres of pasture are about the average in farming communities for one dairy cow, but three acres in an average year in eastern and central Kansas will return about thirty tons of corn silage. This is silage enough for five or six dairy cows for a year. The advantage of the silo in this case is apparent. In some older dairy countries when the price of land has become very high the pasture has almost disappeared.

Senior Girls Won Cup.

By defeating the freshmen 21 to 18, the senior girls' basket ball team won the interclass championship, Thursday, March 7. The cup, offered to the winners of the tournament, was presented to the senior team by Prof. J. W. Searson. The juniors won from the sophomores, 21 to 12. A large crowd saw the games. "Mike" Ahearn, ex-coach of athletics, refereed the contests.

The easiest way for a woman to get over loving a man is to lend him money.

TEST ALFALFA SEED, TOO

IT CAN BE DONE AT HOME, AND THEREBY SAVE LOTS OF WORK.

Two Pieces of Flannel, or Blotter, Two Plates and 100 Seeds, a Little Water and Some Watching—Easy?

It won't be long, now, until farmers begin to plant alfalfa—and wouldn't they like to know whether it is pure? Only one thing on earth will settle that doubt, and that is to test the seed—the best seed obtainable, so that the labor of plowing and drilling may not be wholly lost.

The testing can be done at home. It takes only a simple apparatus, consisting of two pieces of flannel, or blotting paper, about six inches square, between which are placed one hundred seeds. The whole, placed between two plates, should be kept moist, but not "sopping" wet. The seeds which have sprouted should be counted every day. At the end of six days the total number of sprouted seeds will represent fairly well the germinating power of the sample. Good alfalfa seed should give a percentage of at least 80.

Besides the germinating power there is another quality which must be considered in judging a sample. Does it contain a large number of brown seeds? If so, it would be safer not to use it. The brown seed may sprout in the apparatus just as described, but fail entirely to make plants when put in the ground out of doors. Tests at various experiment stations have shown this to be true.

Many farmers sow screenings, or seed which is little better than screenings, and try to make up for lack of quality by doubling the quantity. This may do well enough where land is cheap, but there is too much danger anywhere in the state of getting a poor stand, and of sowing the land to weeds.

If alfalfa seed or seed of any other kind of field crops is found to contain weed seeds, it should be sent to the Kansas Agricultural College to be examined. If desired, germination tests also will be made, but this can be done just as well at home by the man who expects to use the seed.

"PLAY BALL!"

Missouri Will Open the Season Here in Two Games, April 4-5.

The University of Missouri will open the baseball season in Manhattan with two games, April 4 and 5. The "Aggies" already have been working out in the Nichols Gymnasium for about three weeks, loosening up their arms and doing some bunting and fielding practice.

Eight players of last year's team are back for the team this spring: Young, captain, Billings, Pollock, Meyers, Cleland, Beaman, and McCallum. Forsberg, catcher for the team of 1910, is in the running for his old position this year. There is some good material in the "scrubs" from last year which probably will make the last year's men hustle to keep their places.

INSTITUTES IN 41 STATES.

Meetings to the Number of 5582 Were Reported Last Year.

Meetings of farmers' institutes were held, last year, in 41 states and territories. The latest statistics show in these 41 states the regular institutes numbered 5582.

The total number of sessions was 15,532, with an aggregate attendance of 1,904,676. If the states and territories not reporting equal the sessions and attendance of last year, the aggregate number of sessions for the entire country will amount to 16,545 and the attendance to 2,074,099, as against 16,586 sessions in the previous year and 2,395,808 attendance, a fall-

ing off in sessions of 41 and in attendance of 321,709.

The special institutes aggregated an attendance of 1,252,933, making the entire attendance at institute meetings of all kinds 3,227,092, or 383,848 more than in 1910. The special institutes are rapidly growing in importance and interest. One hundred and forty-nine movable schools were held with an attendance of 39,965; 62 railroad instruction trains were run, covering 35,705 miles, accompanied by 740 lecturers and attended by 939,120 persons.

Four hundred and fifty-nine independent institutes were held, with an attendance of 130,917, and 15 round-up institutes, continuing through 153 sessions, attended by 22,730 persons. There were 303 picnics and conventions, consisting of 269 sessions, attended by 120,161 persons.

AS TO PRUNING VINES.

Trellising, a Student Says, Is Important—The Kniffin System.

Grapevines will, at the distance they usually are set, bear about ten times as much fruit as they can mature properly. So the vine must be pruned considerably if the best results are to be obtained. Those who try pruning as an experiment continue it as a business proposition. And the method of trellising is the most important to the success of the pruning process.

Several good plans of trellising may be employed. One of these is the Kniffin two-wire, four-cane trellis. By this method one wire is three feet from the ground and the other, five feet. This makes a cheap trellis, and, if durable posts are used, a lasting one. By this plan a single old cane is allowed to remain from year to year, and from this are thrown out the new canes upon which the fruit grows. Near each wire a cane of the preceding season's growth is left, and all other wood, except a short stub near each of the canes, is cut off. This system of trellising may be used for two canes, also.

The Kniffin overhead system is another good way to trellis. On every post is a cross arm, about three feet long, five feet from the ground. Two wires, 18 inches apart, are at either end of the cross bars. The vines are cared for in the same way as under the two-wire plan.

The advantage of the Kniffin systems is that the sun and air are allowed access to all parts of the vine, and do their share in producing a good yield. The presence of the sun and air allows less fungus to be present, and this adds to the vitality of the vine. The Kniffin system requires little tying, and that is a considerable advantage, at least in the eyes of the man who takes care of the grapes.

When the trellis is planned the locality should be considered carefully. Under the Kniffin systems the sun often is allowed too much liberty, and sun scald is the result. This should be guarded against.

The Busy, Useful Engineers.

The light plant at Junction City has just been tested and inspected by B. F. Eyer, head of the department of electrical engineering at the Kansas Agricultural College. Junction City has just installed a 1000 K. W. turbo generator. The test was to determine the amount of steam consumed every K. W. hour output. Mr. Russell, an engineer representing the Allis-Chalmers Company, was present to see the test made. Ordinarily this would have cost Junction City several hundred dollars to get an engineer to do this work. By using the agricultural college the expense was about one dollar.

The scratch that hurts most is the scratch for a living.

BIG PROFITS IN CEDARS.

WHITE OAKS, TOO, MIGHT YIELD MILLIONS IF TURNED INTO POSTS.

Hillsides Are Good Places for this Timber—Cedars Should be Planted the Last of March and Oaks in the Fall.

If all the hillsides of Kansas were planted to red cedars and these trees were cut into posts at the end of fifty years, they would bring about 250 million dollars, at the rate that cedar posts are now selling. Cedar and oak make the best kind of posts and poles, and they sell for a good price.

Red cedars and white oaks are well adapted to eastern Kansas, says C. A. Scott, state forester of Kansas. "Part of the hillsides may be covered with native timber, and a part with valuable timber. Cut out the undesirable trees and underplant with white oaks or red cedars. The undesirable trees may be used for fuel. The time to plant cedar trees is the last of March or the first of April.

KILL THE WEEVIL.

"If you wish to plant oak trees, gather the acorns in the fall as soon as they are ripe and fumigate them with carbon bisulphide to kill the weevil. Then plant immediately at the rate of about 5000 acorns to the acre. This will give one acorn to eight square feet of ground. All of these acorns will not grow, but if 75 per cent grow it is a good stand.

"Red cedars should be planted about 2000 to the acre, using two-year-old, once transplanted trees. After planting, stock must be kept away from the trees, and they must be free from fires. The character of the land will not allow the trees to be cultivated before or after planting, but they will do very well themselves. For ground that is all rock, cedars should be planted.

HOW OLD WILL YOU BE?

"White oak trees may be made into posts or ties, and red cedars into posts or poles. When these trees are fifty years old you will have about 200 oak trees to the acre, which will cut from six to eight posts apiece. There will be about four or five hundred cedar trees to the acre, that will cut about ten posts to the tree, or from 4000 to 5000 posts per acre. These will sell at about 20 cents apiece.

All of which is referred to the thousands who believe a hillside is good only for grazing.

A FARMERS' HORSE SHOW.

Prizes Worth \$300 Offered in the Clearwater Turn-out—Silos Are Popular.

A horse show in connection with the farmers' institute recently held at Clearwater, Kan., proved exceptionally interesting. Prizes amounting to \$300 were contributed by merchants and stallion owners. Twelve stallions, 60 colts and 20 mules were shown. Five hundred persons attended the institute and more than that number were present at the horse show. G. S. Hine, silo and dairy expert, and Dr. E. F. Kubin, of the veterinary department of the Kansas Agricultural College, were there. After the institute meeting there were several very interesting talks on silos and live stock. Doctor Kubin gave a judging demonstration in the street near the hall. In this demonstration he showed the bone unsoundness in the many animals submitted, and explained the causes therefor.

Mr. Hine has promised to go to Clearwater, next summer, and assist in the building of five concrete silos. More silos will be built next summer, he says, than at any other period.

Money makes the mare go, but it depends on the drivers how far.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

FRANK H. J. WATERS.....Editor-in-Chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MARCH 16, 1912.

A FARM BOY'S SPEECH.

One of the delights of a journey into a snowbound region in Lincoln county, ten days ago, was the snappy little speech of a graduate of the Kansas Agricultural College, in introducing the speaker. This graduate was J. B. Nygard, 1905. He got his training, his ability to say sensible things, and say them right, in the department of public speaking. It wasn't so much what the graduate said; it was the graceful manner, the easy flow of words, the confidence he had in his ability to say his say, and have done with it—a lesson many far older heads might well learn.

A student, hardly more than a boy, was called upon, a few days ago, in Professor Johnston's department, to speak, extemporaneously, of "County Demonstration Farms." W. S. Sweet is his name. This is a report of what he said. It is certain to interest the folks at home; it cannot fail to hold the attention of teachers of agriculture, and it is an excellent example of off-hand, short-order talking that father, certainly, could not have equalled in his salad days: "It certainly gives me great satisfaction," said the young man, "to come before a large body of men and women such as this, gathered to discuss rural problems as they exist to-day.

"Within the last five years there has been a large awakening along agricultural lines, greater in extent than was ever dreamed of a decade ago. It was thought, comparatively a short time ago, that to be thoroughly respectable, and really have a high calling in life, a man must take up one of the professions, or be anything but a farmer. To-day, most of this feeling has changed. The farmer is being more and more respected, and will continue to be more respected in the future, as the population steadily increases, and the available new land decreases. The young man of to-day who has a liking for the farm can do no better than to take a scientific course in one of the numerous branches of agriculture.

"As I said before, agriculture has been, of late, making rapid strides. But, my friends, comparatively few of the farmers at home are being benefited by scientific farming. The average farmer doesn't read the many fine books on agriculture, or the government bulletins. It is practically impossible for him to take even the farmers' short course at college. What can we do to better his condition, in part at least? Simply this: Establish county demonstration farms.

"These farms, centrally located in every county if possible, should be owned and managed by men thoroughly trained in agriculture. Now that so many men, after graduation, are going back to the farm we would have little trouble in finding competent managers. As its name implies, the demonstration farm would mean the working out of scientific agriculture on a practicable basis.

"On this farm the best of pure-bred live stock would be raised—pure-bred

horses, cows, sheep, pigs, and chickens. The best of selected seed would be planted. Intensive, rather than extensive, farming should be practiced, and this is one of the great lessons that the Kansas farmer should learn. He tries to farm too much land. Up-to-date machinery, as far as means will allow, would be installed on the demonstration farms.

"The farmer would be sure to adopt many of the methods practiced, when he could see them worked out, whereas now he only hears about many of the modern ideas. While they sound good, he doubts whether they will work under his conditions.

"The manager of the demonstration farm should keep accurate data and tabulate results of his farming operations, and report these at the farmers' institutes.

"The farm home, with lawn and shade trees, should be neat and attractive. The family orchard, consisting of two or three acres, should be fairly close to the house. Berries and fruits of many varieties, from the earliest to the latest, should be grown, so that the table may be well supplied with fresh fruits throughout the growing season, and have plenty to preserve for winter use. The family orchard, one of the greatest blessings to the farmer and his family, easy as it is to care for, is receiving almost no attention from the majority of our farmers.

"The problem now confronting the average American farmer is not that more experiments be carried on, and more theories developed, but that those already worked out and found practicable shall be used. Now, right at this point, do not misunderstand me. I am not saying one word against the experiment station, or the research work. In fact, I regard work of this nature as of the highest character, but I say it has its own place.

"There are many fine works on agriculture; the government bulletins are full of valuable suggestions, but they are in a dormant condition in so far as the average farmer is concerned. We want a man in the country who understands these works, to work them out in a practicable way, to explain and demonstrate to the farmers, to advise them, to work shoulder to shoulder with them. When this is done the country will be a more pleasant place to live in."

THE SON SUGGESTS.

Something is wrong with the rural church to-day. It is not filling the needs of the times. It seems not to have kept pace with other lines of progress. The rural churches are feeling this deficiency to an alarming degree. The church should be the social center of the community. There should be a spirit of actual social—Christianity—not theoretical—Sunday only, type, such as is now far too common, but the kind that would enable the farmers of a community to form a cooperative association and have a building for social gatherings. Plant trees for a neighborhood grove, if there is none really that can be immediately dedicated to the purpose. Build a lake where people may bathe, and have swimming contests, where fishing parties may assemble, with the possibilities of catching fish that are worth while, and where boat riding may be enjoyed.

Why not have a ball park? There could be held various competitive contests, which always add interest. There appears no good reason why country youths could not play basket ball in the winter as well as others if they had a place to play. There would, of course, be some expense. Some attention and considerable work would be required; these would take time from the farm. But that is exactly the object: "Man cannot live by bread alone."

These improvements will be impossible so long as the farmers insist on doing too much talking about one another; entertaining feelings of jealousy to the extent of withdrawing from any organization because a particular friend did not chance to be the choice of the majority for president, or because those in charge decided to do

A Golden Text.

I lead in the way of righteousness, in the midst of the paths of judgment.

That I may cause those that love me to inherit substance; and I will fill their treasures.

Proverbs 8:20, 21.

something in a manner not generally approved. There must be a feeling of trust and a spirit of union and cooperation, else there can not be the advance there should be for happy country life.

If these trials were successful and proved popular, other features could be added. A system of interchange of speakers might be arranged, a sort of farmers' lecture course, whereby one community would exchange speakers with another community. These speakers might be from different parts of the same state or from different states. They could tell the people just what they wanted to know and the information would be based on actual experience. For illustration: Some parts of Kansas are entering and others will enter the dairy busi-

The Wealth of Life.

THERE is no wealth but life—life, including all its powers of love, of joy, and of admiration. That country is the richest which nourishes the greatest number of noble and happy human beings; that man is richest who, having perfected the functions of his own life to the utmost, has also the widest helpful influence, both personal and by means of his possessions, over the lives of others.—John Ruskin.

ness. They would like to talk with a man from the dairy district of Wisconsin, not only about the silo, but about the construction of the barn, the balance of the ration, the general opinion regarding the different breeds of dairy cattle for dairying purposes, and the bearing, if any, which market facilities would have on the selection of a breed of cattle. If you are near a large city and want the greatest quantity of milk possible, but need have a test of only a fraction over 3 per cent butter fat, isn't the Holstein the best breed for your purpose?

This is the sort of question the farmer would like to have answered if he is about to enter the dairy business, and he would like to talk with a man who has been in the business and can talk from actual experience. If you

The Buried Harvest.

With its fifty thousand binders
And its hundred thousand men,
And horses panting through the grain
Down hill and up again,
And screaming monsters breathing steam,
Dividing grain and chaff,
And dust-veiled men whose pitchforks gleam
The while they jest and laugh,
And rattling trains that carry bread,
A hungry world to fill—
All sleeping just beneath the snow
Out yonder on the hill.

—Charles Edson in the Star.

are about to buy a gasoline tractor you would like to talk with one who has operated one and can tell how it works.

R. P. C.

THE FARMERS' READING.

Some interesting data recently has been collected by L. H. Beall, assistant professor of English literature at the Kansas Agricultural College, to learn what farmers are reading. Twenty students in the course of agriculture taking English literature were asked to write a paper showing the names of magazines and papers read in their home, and in the neighborhood. These boys were from Kansas farm homes. A summary of the papers showed an average of one daily, one or two farm papers, one or two woman's magazines, and one story paper. In nearly every home there were one or two big catalogues from mail order houses.

One farmer spent as high as \$14.50 a year for reading matter.

Among the papers found were one or two city dailies and nearly always the local papers. Quite a number of general magazines were read, such as the *Youth's Companion* and the *Saturday Evening Post*. One woman's magazine and one religious magazine were found in nearly every home. The bound volumes show a number of the popular authors. The investigation indicates a widening of the viewpoint on the farms. Not so very long ago most farmers believed literature was not needed in their business. If they got the top prices for hogs and corn it was good enough.

"Why should we care to speak correct English or read about the new-fangled farming these college professors are trying to give us?" used to be heard. "We know more about farming than these fellows will ever know, with all their experiments and books."

Experiment stations were looked upon as a graft to sell the farmer some new kind of implement or to get his money. You couldn't get a farmer to try anything new. If you talked to him about applying fertilizers to his soil, or about the rotation of crops,

Where the Spankweed Grows.

There's a corner in our garden, but our nurse won't tell me where,
That little boys must never see, but always must beware.
And in that corner, all the year, in rows—and rows—
A dreadful little flower called the Spankweed
Grows!

My nurse says that if a boy who doesn't wash his face,
Or pulls his little sister's hair, should ever find that place,
That spankweed would jump at him and dust his little clothes.
Oh, it's never safe for fellers where the Spankweed
Grows!

Some day I'll get the sickle from our hired man and then
I'll go and find the spankweed place—it's somewhere in the glen.
And when I get to swingin' it and puttin' in my blows,
I bet there'll be excitement where the Spankweed
Grows!

Paul West in Life.

SUNFLOWERS.

The "sleep a little longer" student isn't likely ever to start much. It's the first-hour men and women who get there.

The Helping Hand, according to the esteemed *Star*, "needs shoes." Have they tried gloves?

An advertiser in *The Kansas City Star* asks for information of the Going family. Evidently they are still Going.

Many a woman—thinking of old sayings—acts on what she supposes is intuition when it's only a rash conclusion.

Look out for the man who says he'll get even when you catch him in the wrong. That kind of a man would rob his own widow—if he could.

"Howdy!" said one man to another, this morning, shortly after returning from Topeka, "howdy, and what's the best word?" "Roosevelt" was the reply, as the friend hastened on his way.

The class is again reminded that "soft, clinging material," and "pearl handled revolver" belong in the same safe. The reporter who uses these old friends usually is a 32 caliber on a 44 frame.

"Well," exclaimed Miss Augusta Wind, settling herself in the big rocker, "there'd be no fruit and no flowers, and pesky little grain, if the Lord delivered the weather according to our ideas."

Brother Coburn shook up the state, last Monday, by informing the farmers of Kansas that their seed corn would need testing. F. D. doubtless has missed the daily papers, in the last six weeks.

"Bluffing in the class room won't pay," said Miss Augusta Wind, "but there's one bluff that will win: Make folks think you're happy—even if you aren't—and more than likely you'll forget your worries."

When a Manhattan woman opened a music closet, a few days ago, she discovered that mice had eaten many of the songs. "Mary is a Grand, Old Name," was almost wholly consumed. One mouse was found dead on a copy of "Anchored."

The Associated Kansas City Manufacturers who advertise so loudly should provide a place for visitors in their city to eat—a good restaurant—without going to the big hotels. It's a nuisance to carry a luncheon when one goes to the city.

Ever see a railroad clerk who knew how to find the arriving time of a train in any city off his own line? Ever see one that knew anything about connections with other lines? Ever see anyone who knew how to find anything in the "Railroad Gazetteer?"

Amelia.—We do not know how Laura Jean Libbey got her knowledge about love. It's all we can do to keep up with Lillian Russell, Ruth Cameron, George Fitch, Walt Mason, Mr. Dooley, Uncle Gav, Deacon Walker, the Daffydills, and the Kansas Notes. Still, Laura may know. She was absent for a long, long time.

There are fifteen hundred very peculiar men in Wyandotte county, employed by the railroads. That many have been sued by loan sharks, recently, because they refuse to pay borrowed money. No man is ignorant of the loan shark danger. If he gets into it he ought to pay the interest, no matter how high it is. The press has done its duty.

Money is the string that pulls the world.

PLANT A FEW SWEETS.

THIS KIND OF POTATO ISN'T HARD TO GROW, AND IT'S POPULAR.

Warm, Moderately Rich, Sandy Soil is Required—Set Out the Sprouts About the Middle of May to July 1.

Plant a few sweet potatoes in your garden this spring. They aren't hard to grow, and what is richer to eat than brown sweet potatoes with gravy? Besides, this vine is very ornamental, and its thick, dark, foliage helps to make your vegetable garden more attractive.

Sweet potatoes are grown by means of sets or sprouts which grow from the root buds. It is best to get them from seed growers or gardeners. They require warm, moderately rich, sandy land. If the land is too fertile, there will be a large growth of top at the expense of the root. The plants may be set out from the middle of May until the first of July, or after the late frosts are over.

BETTER USE RIDGES.

The potatoes may be grown on the level, but a ridge usually is preferred. In the garden ridging may be done with a hoe, making the ridge about 18 inches broad and 6 inches high. The rows should be from 3½ to 4 feet apart. Set the plants along the center of the ridge—they should be about 2 feet apart—and if the soil is moist it is only necessary to dip the roots in water before setting. But if it is unusually dry at this time, it will be advantageous to sprinkle the plants occasionally.

LIFT THE VINE.

When the plants are small they should be cultivated often enough to kill the weeds and keep a mellow surface. Later on the vines themselves will cover the ground, then cultivation is impracticable as well as undesirable. After the vines are too large to cultivate they should be lifted occasionally, or they are likely to take root at the joints and keep on forming more vines with no roots in the hill large enough for use. The vines should be lifted once a week—every vine should be loose from hill to tip. This lifting may be done very rapidly with a pitchfork, but some care must be taken.

ALUMNI NOTES.

Clifford Carr, '11, visited in Manhattan over Sunday.

H. E. Skinner, '11, who is teaching at Columbus, visited the college last Saturday.

H. L. Popenoe, '09, has accepted the position of instructor in agriculture in the high school at Alexandria, Minn.

DeVerne Corbin, 1903, drowned last December, probably near San Diego. His body was recovered February 12, near Santa Monica. Corbin was 31 years old, an architect, and unmarried.

Kirby Wyatt, '11, writes to Professor Walters from Erie, Pa., that he has begun work in the structural laboratory of the General Electric Company. His address is 422 West Seventh street.

Roy Wyatt, a graduate of the engineering department of the Kansas Agricultural College, has opened an architect's office, in Atchison, says the *Atchison Globe*. He resigned, recently, as city engineer to enter business for himself.

The *American Breeder*, published at Kansas City, has lately added T. W. Morse, '95, to its editorial staff. In a recent number it speaks of its "new hired man" in the following complimentary manner: "Forty years of the right sort of experience—the first twenty on his father's farm and the last twenty in agricultural college and agricultural newspaper work—have given the *American Breeder* in Mr. Morse the services of one of the best-posted and best-paid men in live stock newspaper work. Years of work in the field has given him a wide personal acquaintance among breeders and an accurate knowledge of their busi-

ness, as well as of their herds and agricultural conditions generally. The *American Breeder* already shows evidence of this fact."

Here is part of an exceptionally interesting letter received by Prof. Albert Dickens, of the horticulture department, from Andrew Wheeler, class of 1911, on his father's farm, near Tyro, Kan.:

We think there is no place like the farm to put a college education to the test, and practical use. Father built a barn and silo last summer, and our dairy has been paying us better for the better protection and feed. We have six full-blood Holsteins now. We have two scrubs which give us over 5 gallons each a day. Since January 1, 1912, we have been weighing our milk and testing monthly. At present we are getting about 275 pounds of milk and 30 pounds of cream, daily, and about 75 pounds of butter a week from eleven cows. We have just ordered a gasoline engine to run the separator, churn, and washing machine.

The history of the State Agricultural College for the last quarter of a century was lived over Friday night, March 8, by about seventy-five Topeka members of the alumni in their fifth annual banquet at the First Christian church. Graduating classes from the year 1888 up to 1911 were represented. A program replete with stories of the student life of the different periods of the school's development followed a five-course dinner.

J. D. Graham, editor of the *Kansas Farmer*, was the toastmaster. A. G. Kittell, of the class of '09, responded to the toast, "A Look Ahead." He said that the Commercial Club rooms would be used hereafter for the regular meetings of the Alumni Association.

Mrs. J. H. Whipple gave a very pleasing reading, "The Pettison Twins." A piano solo was played by Miss Mabel Spencer.

With the subject, "Ancient History," H. W. Jones, of the class of '88, gave a witty description of the life at the college "before the new order of things." He contrasted the days when the milk stool was a part of the student's equipment, and "the college tom cat furnished a target for an occasional squirt while the student was pursuing his milking lesson," with the present college life "when the cows are milked by machinery while they listen to a phonograph playing the Sextette from Lucia."

"The Medieval History," was recalled by Mrs. Maud (Gardiner) Obrecht, of the class of '93. She told of the changes at the school and the milestones that marked the changes.

C. J. Stratton, of the class of '11, gave a few chapters of modern history. The program was closed with a quartet selection by Messrs. Ferris and Ferris, Stratton and Kittell. These officers were elected at the business meeting: President, O. S. True; vice-president, Miss Ruth Ellis; secretary, Frank E. Ferris.

Those present were: Miss Vera Winter, F. B. McKimmell, H. K. Roe, L. G. Hepworth, Glenn Hepworth, W. A. Turner, H. P. Richards, Ruth Ellis, Frank Daniel, Ada Kirchner, Anna Daniel, Mrs. Charles W. McCord, Mr. and Mrs. E. G. Gibson, Mr. and Mrs. J. A. Mercer, James C. Hughes, Fred Van Dorp, Mrs. Fred Van Dorp, Mrs. H. H. Riley, Mr. and Mrs. R. H. Rader, Miss Edna Sims, Mr. and Mrs. J. Tompkins, Miss Bessie Sims, Mrs. O. S. True, Rob. M. Campbell, Mr. and Mrs. Verne D. Boutwell, H. W. Jones, Ida L. Jones, Virginia Meade, E. H. Whittington, Alma W. Kratzer, D. A. Kratzer, Harriett Reynolds, Mary Reynolds, O. S. True, Maud G. Obrecht, Mr. and Mrs. James G. Whipple, Mrs. Marie (Fenton) Kittell, Albert G. Kittell, Bernice D. Ferris, Frank E. Ferris, I. D. Graham, C. J. Stratton, Mabel Spencer, Artea Kennedy, Raymond M. Ferris, and J. M. Kessler.

Captain Boice's Troop Returns.

The Fourteenth Cavalry has been ordered to return home from the Philippines. Charles H. Boice, commandant of cadets at the Kansas State Agricultural College, last year, is a captain in this troop. The orders do not mention a new assignment for the regiment.

SELECT RUGS WITH CARE

FLOOR COVERINGS ARE THE KEY NOTE TO ATTRACTIVENESS.

Golden Brown and Dull Green are Good Colors—The Design an Important Feature—The Body Brussels a Favorite.

A woman of resource and ingenuity can work wonders with very limited money by cultivating her taste in choosing rugs. She must learn to care for pure tones and good backgrounds. She will soon discover it is more restful and refreshing to go into a room with cool green walls, white paint, wrought-iron hardware, and a carefully chosen rug, than into one with "loud" walls, gold furniture, brass fixtures, onyx tables, and large-patterned carpet.

When buying a rug it is well to draw a complete diagram of the room, as nearly correct in shape and proportion as possible. Measure with a rule or yardstick in preference to a tape line, and give dimensions in feet and inches; in this way it can be determined how large a rug the room will need. If this can be done by the purchaser, the car fares and expenses of a man from a store will be saved, and this is worth while if there is only a limited amount to spend. Having learned the size of rug needed, the quality and kind of rug must then be decided on.

REMEMBER THE COLORS.

The color scheme of the room must be in mind. There are few things about a house that, in a quiet way, have more influence upon humor than floor coverings. One may not often notice them directly, but nevertheless they have an influence upon one's subconscious self which is undeniable. Rugs give the fundamental note to the scheme of the rooms. If they are of suitable color, and strikingly arranged, they lend to the room a certain feeling of comfort which is essential to the well-decorated home, but if they are not, they destroy the whole effect of an otherwise well-appointed apartment.

A floor must be the strongest color in a room. Golden brown and dull green are good colors to combine in floor coverings. Good designs are the most important features. The most successful designs for rug-making are those adapted from Indian Motifs. Never use large designs in a rug; one tires of them sooner than of small designs. Also, the small designs look much daintier.

There are many kinds of rugs to choose from, and at prices to suit nearly every one. The most expensive and beautiful rugs are Persian, and they come to this country in great quantities. Persian rugs are made very carefully, by hand, on looms of primitive construction. The only tools used are a pair of shears, a comb, and a mallet. No changes have been made for centuries in the mode of weaving or in the pattern used, and as some of them were in use before the days of Abraham, a feeling almost of reverence comes over one in seeing these ancient designs. The Orientals have not the same craze for novelty that possesses the western people, and much of their success in rug-making is due to this fact. There is much individuality in many of their rugs, and those who understand the symbols they make use of can trace the history of a people by their designs.

SOME GOOD COPIES.

The Wilton and Axminster rugs are used to a great extent in this country. A French Wilton rug nine by twelve feet costs \$50 in the best designs and colors. Some of them copy a Persian rug so closely that a rug purchaser might be deceived as to its genuineness. The Body Brussels is perhaps the favorite rug, and is made in several qualities.

Old carpets need never be thrown away when shabby, as they can be pulled apart, cleaned and rewoven into small rugs. Four yards of carpet makes one square yard of rug. The usual price is \$1 a yard for ripping and cleaning the old carpet and weaving the rug. This includes delivery.

Velvet, Moquette, Brussels, or Ingrain can be used, but the pile carpets are not mixed with the flat carpets when woven.

Home-made rugs are also important. The expense of furnishing is so great that, whenever possible, it is no little help to make something for the home out of material that would otherwise be wasted. Owing to the revived interest in old-fashioned furniture and in the love of simple things for the home, rag rugs have become universally popular. These, however, can be bought in such exquisite colorings at stores that it seems futile to make them; but there are several varieties that can be made at home from old clothing which, when placed upon matting or bare floors, reduce the rug bill and add to the decorative appearance of the home. Their advantage lies in their economy and in the fact of their being washable, which appeals strongly to the housekeeper of to-day.

HOW TO USE THE FORK.

This May Settle the Lingering Doubt in Some Diner's Mind.

From The Kansas City Star.

Dear Chaperon: If I am eating, say beefsteak and mashed potatoes off the same plate, which is the correct way to proceed?

Would I be right or wrong if, when wanting to partake of some of the mashed potatoes alone, I turned the tines of my fork over and, still holding the fork in my left hand, carried the potatoes to my mouth with my left hand; or should I, every time I want to partake of the potatoes alone, lay down my knife, and transfer the fork to my right hand?

If it is not now allowable to use the fork for such a purpose in the left hand, was it or was it not always contrary to good manners so to use it?

OLD FOGY.

Mrs. Learned, a standard authority, says in her "Etiquette of New York To-day":

A small portion of meat is cut as required, the knife being retained in the right hand, the fork in the left, the fork held with the prongs turned down, the handle of the fork resting in the palm of the hand while cutting food or conveying it to the mouth.

When eating vegetables the knife is laid on the plate, the blade resting near the center. The fork is then taken in the right hand, the prongs turned up, the handle of the fork resting easily on the thumb.

There might have been a time when the reverse was good form, but I fail to find any such record in several manuals devoted to social customs.

THE STARCH IN POTATOES.

One Bushel of Corn is Worth Three of the Humble Spud.

One bushel of corn is equal to three bushels of potatoes in starch-producing value. Potato flour is manufactured by northern potato growers when they have an over production of potatoes for which they have no market. In Kansas it is better to manufacture starch from corn. Three-fourths of the dry weight of either potatoes or corn is starch. A bushel of potatoes is worth from one to two dollars, weighs 60 pounds, of which only 15 pounds is dry matter, and yields 11 to 12 pounds of starch. A bushel of corn ordinarily is worth 50 cents, weighs from 56 to 60 pounds, of which 50 pounds is dry matter, and yields 35 pounds of starch.

Spring Skirts.

Many attractive skirts in whipcords, in white and black and in white and gray effects, are being shown, says the *Dry Goods Economist*. Serges, Bedford cords and basket weaves are among the novelties that are meeting with favor at the present time. While many of these skirts show the tunic, the effect is produced by the use of trimmings rather than by cutting the skirt in two sections. Side-trimmings are also featured very largely by the skirt houses. The trimmings on the skirts consist very largely of tailor-made effects, and buttons and loops are a favored trimming, pearl and bone buttons being particularly desirable.

CORN ROWS TOO CLOSE?

A DRY SEASON WILL ANSWER THIS QUESTION FOR THE FARMER.

Right Now the Problem is to Get Good Seed Corn for the Next Planting—Different Distances for Different Sections.

Many farmers plant their corn too closely, too thick—the rows aren't far enough apart. This is important if the plants have to face a drouth.

Kansas grows more corn than all other crops together. The last year was unfavorable to the production of corn, says E. G. Schafer, of the agronomy department, and unless the farmer saved a large number of good ears, he will find it hard to get good seed corn. For his own success it is hoped he has sufficient seed, and that he knows every ear of it will grow.

ONE EAR TO A ROW.

One ear of fair size will plant a row nearly eighty rods long. But if it does not grow, one-tenth of an acre will be vacant. This will mean not only a loss of one-tenth of an acre and the corn that might have been produced from it, but a loss of all the farmer's work every time he cultivates this vacant space. It would have been far more economical to use a little time in the early spring testing the vitality of the seed corn than to waste time, and a chance to produce a large crop, during the summer.

Supposing the farmer's seed corn is good, does he know how far apart he is to plant it? Corn often is planted too close in the row, sometimes too far apart, and perhaps is more often unevenly distributed in the row. Periods of dry weather are likely to come, and corn that is too thick is going to be injured the most. In fields where the corn is too thick a lot of the stalks produce only nubbins, and a lot more fail to produce corn at all. These stalks that do not produce ears are in the way, and use up the moisture and plant food that should go to the development of better stalks. If corn is planted thinly, and the season is unfavorable, it will give the plants a better chance to develop, and still produce a large crop.

AN UNEVEN STAND.

The farmer often plants his corn more thickly if he knows it is low in vitality. He may argue that this will insure him a better stand. Poor seed planted thickly cannot produce anything but bad results. The stand will be uneven, and a great many of the stalks coming from seed of low vitality will never produce ears.

The conditions of rainfall and climate in different parts of the state vary so widely that one rate of planting will not do for all sections. In eastern Kansas, twenty to twenty-four inches is close enough where corn is planted a single stalk to the hill. A little farther west, twenty-four to thirty inches is close enough. In portions farther west than the central part of the state, it should be planted as far as thirty to thirty-six inches apart in the row.

It has been suggested that only every other row be planted in the drier parts of the state, so that intertillage may be continued throughout the summer. Why not at least try this plan? Moisture is the factor that is so often lacking, and causes entire crop failures.

ROWS EVERY 7 FEET.

With rows seven feet apart, stalks two feet apart in the row, and each stalk producing a twelve-ounce ear, the yield would be thirty-three bushels an acre.

It is generally accepted that to grow wheat successfully in the western part of the state the land must be summer fallowed. By planting corn rows seven feet apart, instead of three and one-half feet apart, fallowing may be accomplished at the same time the crop is grown, and intertillage continued throughout the summer.

By having the rows seven feet apart, cultivation can be continued after the corn is too tall to cultivate by the ordinary method. Soil moisture is saved by frequent cultivation in the summer.

--- Let Me Have Your --- Wasted Hours

Possibly YOU think YOU do not waste any. Just keep tab for four days and you will be surprised. The average man wastes more time in ten years than he would need for getting a college education. Why should any man remain ignorant of the great field of **Agricultural Science**?

Study at Home

The Kansas Agricultural College offers courses by correspondence in more than **TWENTY SUBJECTS** relating to **AGRICULTURE** and **HOME ECONOMICS**. It employs a Director of Instruction whose business it is to direct the methods of teaching by correspondence and to develop ways of giving instruction to those who are not able to attend College.

Courses Are Offered In---

Elementary Agriculture, Farm Crops, Soils, Stock Feeding, Poultry, Farm Dairying, Butter Making, Fruit Growing, Vegetable Gardening, Floriculture, Landscape Gardening, Drainage, Concrete Construction, Road Making, Elementary Woodwork, Farm Buildings, Cookery, Sewing, Household Management, House Sanitation, Vocational Education, Rural Sociology, Animal Breeding, Forestry, Injurious Insects, and several others.

**SEND FOR SPECIAL PAMPHLET.
LET ME HAVE YOUR WASTED HOURS.**

Director College Extension, Box G.

**Kansas State Agricultural College,
Manhattan, Kansas**

THE INDOOR DAY PLAY.

A Mother Must Contrive in Many Ways for the Children.

"Mother, what shall we play?" is the question almost every mother must answer when the rainy days come. Sometimes it is impossible for a busy mother to stop her work to play with her children, but with a little planning and some material ready it is possible to keep them busy and entertained when they must stay indoors.

Making scrapbooks is a pastime small children enjoy. They like to cut out the pictures and then paste them in the books. It gives them the idea that they are "really working." Little girls always like to play with paper dolls, but not so little boys; but both will like the bookmaking play and can be taught orderliness at the same time. Books for this work are to be had at a very low cost, or cloth may be used to make books similar to those on which the nursery rhymes are printed.

For older children, work with water colors is entertaining, and can be made instructive with a little direction on the part of the mother. Any kindergarten work will always take the fancy of a child.

Children nearer the school age are hardest to manage when they cannot romp out of doors. If left to find employment for themselves, they are nearly sure to get into mischief. For these children, play that is more nearly work must be planned. If given a chest of tools and taught how to use them, a small boy can spend hours making small articles for himself or other members of the family. Little girls can be taught to make garments for their dolls, and will not dislike sewing so much when they find how

they can add to the dolls' wardrobes in this way.

Toys that are played with every day soon become tiresome and no longer appeal to the children, and some other amusement, such as those before mentioned, will often make a rainy day pass more pleasantly for both mother and children.

Important Books Received.

The librarian, Prof. A. B. Smith, reports that among the more important reference books recently received at the college library are the following:

Dictionary of National Biography, 23 volumes. (The most important biographical dictionary in the English language.)

Meyers Konversations-Lexikon, 22 volumes. (A new edition, just completed, of the best modern German encyclopedia.)

Poggendorff's Biographisch-Literarisches Handwörterbuch, 5 volumes. (The best bibliographical dictionary of scientific men of the world. Covers the last seventy-five years.)

Kayser's Völlständiges Bücher-Lexikon, 42 volumes. (Gives the record of practically all the books published in Germany and Austria since 1700.)

LeSoudier's Bibliographie française, 13 volumes. (A bibliographical record of French publications.)

Wer Ist's? (The "Who's who" for Germany.)

Brunet's Manuel du Librairie, 8 volumes. (One of the best general bibliographical manuals.)

Qui êtes-vous? (A French "Who's who.")

Minerva Jahrbuch. (A handbook of the colleges, universities, and learned societies of the world.)

British Museum-Subject index of the modern books added to the British Museum since 1881, 4 volumes. (A splendid catalogue of the late books of the best library in the world.)

American Year-Book for 1911.

Who's who (English) for 1912.

Bowker's State Publications.

English Catalogue of Books, 1835-1905, 9 volumes.

Catalogue of scientific papers, compiled by the Royal Society of London, 14 volumes.

KNOW ABOUT THE DISC?

SOME FARMERS DO NOT APPRECIATE THIS IMPLEMENT'S MANY USES.

More Valuable, Perhaps, Than Any Other Piece of Farm Machinery—Some Have it Follow the Binder in Harvesting.

Although the disc harrow is used on a large number of the farms of Kansas, many farmers do not use it when it will do the most good.

The uses of the disc harrow are many, and without doubt it is one of the most valuable implements on the farm. It may be used to conserve moisture, break up cloddy ground after plowing, prepare hard and dry soils for plowing, and destroy weeds after they have grown beyond the control of the smoothing harrow.

TO SAVE SOIL MOISTURE.

The best way to preserve soil moisture is to disc the land as early in the spring as the condition of the soil will permit. By doing this, a large share of the water from spring rains and melted snows is kept from evaporating, and by changing the texture of the top soil, to the depth the disc goes, the surface soil, where roots start to develop, will become warmer, drier, better aerated, and better suited to lessen the rate of evaporation of the deeper soil water, and will hasten the development of weed seeds so they may be destroyed.

The most effective way to use the disc in the spring work is to lap the harrow half, and in doing this the furrow between the sets of discs will be entirely filled and the surface will be left level.

When labor is scarce and the farmer must save time, the double acting disc should be used. This is a new implement recently placed on the market, and is considered by the authorities of the Kansas Agricultural College to be built on a good principle. Although it has a heavier draft, there seems to be little doubt that it will come into general use in the near future.

AFTER A HEAVY RAIN.

Often, after plowing, a heavy rain comes and compacts the soil, leaving the best conditions possible for rapid loss of this water by evaporation. This land should be gone over with a disc as soon as the ground will permit. Many farmers follow the binder with the disc; that is, they have the disc run behind the binder before the grain is shocked. This is a good practice, as the stubble ground is then in the best condition to catch any rain that might fall before plowing, and the soil is left in such a condition that plowing is made much easier.

Where small grains are to follow corn or potatoes the use of the disc harrow will often make the plow unnecessary, but either the disc must be run deep or a cutaway disc must be used. The chief objections to the cutaway disc are that it does not pulverize the soil so well, and it is not so easy to sharpen as the full-bladed disc. Although it may run deeper, there is no appreciable difference in the draft of the two.

The Salt of the Earth.

The United States produced 30,305,656 barrels of salt in 1910, valued at \$7,900,344, according to figures compiled by W. C. Phalen and just published by the United States Geological Survey. This was an increase of 198,010 barrels over the production of 1909, but a decrease in value amounting to \$443,487. The six leading producers of salt in 1910 were New York, Michigan, Ohio, Kansas, Louisiana, and California. Nearly 99 per cent of the salt consumed in the country was obtained from domestic sources, the United States having long been independent of foreign production.

Western Anthracite?

According to the reports of the United States Geological Survey, there are a number of anthracite beds in Colorado, New Mexico, Montana, and Washington, besides the great anthracite deposits in Pennsylvania.

WINTER - TIME -

.. IS ..

Reading Time

For the Family on the Farm.

Give father and mother, and the boys and girls, something to read in which they are interested and your own fortunes will prosper more.

They have the time, now. They'll be busy in the summer with their crops.

**Do You
Understand Publicity Like This?**

It is not advertising. Don't make that mistake, Mr. Editor. It is taking information to the persons who need it most. And that is exactly what newspapers are for, isn't it? It is taking facts to the farm that the farmer and his family cannot get in college because they have no time to go there.

We Are Sure of Our Facts.

Every article sent from Kedzie Hall to the newspapers of the United States, either for exclusive use or in the "Plate Service," is authenticated before it leaves the office. That makes the farm articles from the Kansas Agricultural College invaluable. Write us about them.

**Do You Read
THE KANSAS INDUSTRIALIST?**

If you are a graduate of the college, a newspaper man with a liking for "Time Copy," a state officer, or the head of a farmers' institute, and are not getting this little paper you are missing some good things about Kansas agriculture. If you do not belong to any of those classes you can get the paper by subscribing. Don't forget that.

It is quoted from New York to San Francisco. It is regularly clipped by more than 1100 newspapers and 110 farm publications. It is read in eighteen countries. And it costs fifty cents in Kansas, seventy-five cents outside. : : : : : : : :

**THE
Kansas Industrialist**

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, March 23, 1912

Number 22

A CLUB FOR MANY RACES.

FOREIGN-BORN STUDENTS AND INSTRUCTORS ORGANIZE.

The "Cosmopolitan Club" at the Agricultural College Will be Sociable and Try to Eradicate National Prejudice—Twenty Members.

Twenty students and teachers, representing a dozen countries, have formed the Cosmopolitan Club at the Kansas Agricultural College. Cosmopolitan clubs have been organized at many of the leading colleges and universities of the world, and they have achieved international importance. This is the first branch to be established in Kansas. Max Ravitch, instructor in English, is responsible for the local chapter. Roumania is his native land.

FOR INTERNATIONAL FRIENDSHIP.

The club has a double purpose: social life for the foreign students, and the eradication of national prejudice. The club was not organized that the members might meet and keep alive any feeling of antagonism. Just the reverse. The foreign students will attempt to make native Americans understand the things of the various countries represented; learn American ideas and viewpoints; and bring about a feeling of international friendship, without which world peace is only a Utopian idea, it is said.

Too often, say these students from many climes, prejudice is the result of misunderstanding. Too often, the people of this country voice radical opinions that are made valueless, yet harmful, by ignorance. These students will attempt to brush away this prejudice, in a modest way at first, perhaps. The club will give programs that bring out the interesting features of life in the Orient and in Europe.

The members also will have more social intercourse. True, they make friends with Americans, and assimilate American ideas, but in this organization the members are drawn together by the kindred feeling of homes far distant and out of reach in the short time allotted for vacations; they mean to enjoy this comradeship.

NOT ONLY FOR FOREIGNERS.

President Waters is in favor of the organization, and has consented to become an honorary member. It is not the intention of the club to limit its membership to persons of foreign birth; rather, that the club shall be truly cosmopolitan, representative of all the world.

Eight members of the club are Chinese students. Kim Ching, Wai Kai Chang, Bung Chew Choy, Foo Yuen Lim, Pong Kong Lum, the Lay brothers and Albert M. Yim live in Honolulu. Japan is represented by Hachiro Yuasa and Kashi Ushiku. L. C. Hondius and C. Mattson are from Sweden. William Hislop, a native of Scotland, is an officer of the club. F. T. Rosado is from the Philippines. A. A. Potter, of Russian birth; Otto Maurer, of Germany; and Max Ravitch, from Roumania, are the faculty members of the club.

THE CELLAR MUST BE CLEAN.

Drainage and Ventilation. Too, Are Essential, and Important for Health.

An ideal cellar should have good ventilation, plenty of light, a good drain, and a high ceiling. The walls and floor should be smooth, and preferably of finished cement. This will insure a minimum amount of dust collecting on the walls. Where there is plenty of light there will be fewer cobwebs, which invariably go with most cellars.

The number of rooms in the cellar depends upon the uses to which the cellar is to be put. By all means, there should be one dark room for canned fruit, vegetables, etc.; a wash-

room, a hanging room in which to dry the clothes, and then a room for general purposes, in which to keep a refrigerator for the milk, butter, etc. If a furnace is to be used, there must be a furnace room, provided with enough room for coal and kindling. It is better to have the fuel room separate from the room in which the furnace is located, but directly adjoining.

Four or five rooms are enough for the ordinary cellar. The size of the rooms will depend upon the uses to which they are to be assigned; and they should be arranged to facilitate, best, their constant use.

CALL A WHEAT INSPECTOR.

College Men Will Advise You About It Without Cost.

Farmers who desire to raise seed wheat this year can have their wheat personally inspected by an expert from the agricultural college. To all fields reported soon to the college an expert will be sent. He will tell the owner when the wheat should be cut to make good seed and how it best should be cared for. Inspected wheat will then have the recommendation of the agricultural college. There is no fee for the inspection.

For several years the agricultural college has been aiding farmers in getting better seed wheat. Last year 150 fields were inspected before harvest, and a list giving the names of about 200 farmers offering seed wheat for sale was supplied to those desiring it. Nearly all this wheat was grown from seed coming originally from the Kansas Experiment Station. About one-third of the growers on the list reported their seed wheat sales. From the crop of 1910 more than 35,000 bushels was reported sold direct by these farmers. The sale of about 32,000 bushels has been reported from the 1911 crop. Practically all of this wheat brought a premium over regular market grades. And the farmer who gets good, pure seed, and takes care of it, deserves a premium.

If you are growing a pure variety of wheat and desire to have it listed for inspection, send in your request. The fields will be inspected between the time of heading and harvesting. In making requests farmers should send in answers to the following questions to L. A. Fitz, Manhattan, Kan.:

1. Name of variety.
2. When and where did you obtain seed of this variety?
3. How long have you grown it?
4. What has been the average yield per acre from it?
5. How does this yield compare with that from your other wheat?
6. How many acres of this variety will you harvest this season?
7. What yield do you expect?
8. What means have you used to keep it pure in growing and threshing?
9. Location of farm. Give county, with distance from nearest town or post office. (Example: 5 miles north and 4 miles east of Wichita.)
10. Give any additional information which you think would be helpful in the work.

"BOLTED" FLOUR IS DEFINED.

It's a Grade of Common Flour Which is Still Bran.

"Bolted" flour is a term very common with those connected with milling industries, but to many persons "bolted" is Greek. Now, in the process of making flour, three kinds are made—graham, whole wheat, and the different grades of white flour. These, in the earlier stages of manufacture, have different amounts of bran material in them which is taken out by means of sieves.

At this point the flour is given the treatment by which it receives its name. The machine is called a bolter and the product is "bolted" flour. As for the part of the wheat, it is made from the endosperm—the white, starchy part. The finished flour is not turned out at this point, but is ground still more, until it is the flour used in making ordinary bread.

GIRLS IN AN "OPEN DAY."

PHYSICAL TRAINING CLASSES GAVE EXHIBITION IN NEW GYMNASIUM.

First Annual Public Performance of Young Women's Classes—Dancing, Drills, Marches, and Games the Program.

There's no doubt now that the girls at the Kansas Agricultural College are making good use of the new gymnasium—their share of it. The public discovered that last week, March 14, when Miss Blanche Earl Enyart, director of physical training for women, presented her gymnasium classes in the "Girls' First Annual Open Day Exercises." A large crowd went through a blizzard to see the exhibition. It was given in the main room of the gymnasium.

REGULAR EXERCISES NOT PUBLIC.

The everyday exercises of the girls' physical training classes are not open to visitors, consequently it wasn't generally known what the young women had been doing to make muscle over on their side of Nichols Gymnasium. The public knows now, all right. At least, that part of it which looked in at the marches and drills and dances and games the other day, knows. With ease and grace the young women displayed what they had been learning.

At first there was a grand march by all the classes. The big room looked alive with girls, all in the regulation black gym suits. Then came an exhibition of aesthetic dancing by the advanced class—very prettily done, too. This was followed by an Indian club drill by the second-term classes; Swedish folk dances by the first-term class; a dumb-bell drill by the advanced class; "Swedish Day's Order," by the second-term classes; wand drill by the advanced class, and games by teams from all the classes.

SEVERAL HUNDRED IN IT.

Several hundred young women took part in the exercises. It was all decidedly well done and mighty interesting, and the crowd of students and faculty folk applauded their appreciation frequently. This was the program:

Marching.....All Classes
Aesthetic Dancing.....Advanced Class
a Unique
b American Beauty
c Dance of the Song Bird
Indian Club Drill.....Second-Term Classes
Swedish Folk Dances.....First-Term Class
a Klappdansen (a students' dance)
b Vafva Vadmal (a peasants' dance)
Dumb-Bell Drill.....Advanced Class
Swedish Day's Order.....Second-Term Classes
Wand Drill.....Advanced Class
Games: a Beadie Goes Around
b Arch Ball
c Fetch and Carry.

THE BOY WITH THE BROOM.

His Services Cost the College—He and Others—About \$122 Weekly.

"The boys with the brooms and mops"—the college students janitor force—cost the Kansas State Agricultural College about \$122 a week. Of course, this is not a fixed amount. It varies every week, but according to W. R. Lewis, custodian of the college, \$122 would be the average weekly amount during the school year. This is exclusive of the salaries of two regular assistants and the custodian.

Visitors of the Kansas State Agricultural College often comment on the cleanliness of everything in and around the college, but few realize the amount of work necessary to maintain this condition. Many, also, do not know that practically all of this work is done by students.

All the rooms and halls of every building on the campus are swept every week day, except Saturday. Every Monday, in addition to the regular sweeping, the woodwork is thoroughly dusted. To do this work a force of 37 men is required. These men work three and a half hours, four

days of the week, and eight hours on Mondays.

Numbers of students are graduated from the college, every year, whose education was made possible by the janitor work given them by the institution. The boy in overalls, with a broom in his hands, is not looked down upon by his schoolmates. He is as important on the campus as any student whose parents give him all the money he needs.

ROTATE THE GARDEN CROPS

Too Much of One Thing Robs the Soil and Lowers the Yields.

Many gardens fail because the same crops are planted year after year. The soil will not prosper under this treatment. Certain elements used by the plants grown become almost extinct. This calls for expensive fertilizers to keep up the production, or the soil must be used for something else. This may be prevented by proper rotation of crops, gardeners at the Kansas Agricultural College say.

The land is treated differently under rotation, the faults of one year being corrected by good management in another year. By this method no one element of plant food is exhausted. Rotation tends to even up the soil. One crop leaves the land in good physical condition for another. It gives it humus, which all crops must have. In some years green crops will be turned under. This gives the soil almost immediate available plant food, and a larger supply of nitrogen.

The gardener should have a plan of rotation mapped out which will repeat every 9-11-13 or any other certain number of years according to the extent of the field and the time desired. In doing this the same amount of all vegetables may be grown one year with another. The one requirement of this plan would be to have the plots of ground the same size.

As an example of rotation, potatoes may be followed by beans, peas, or cabbage. In general, one crop should be followed by another of different nature. It is not necessary to change the plots every year. Put one plot in sweet corn, say, for two years, followed by two years of peas. This should be followed by two years of potatoes. In this manner the weeds that become so obnoxious under same cultivation will be checked or destroyed.

ALUMNUS BUYS A PAPER.

Frank LaShelle, '99, Will Edit a Hanover, Kan., Weekly.

The Hanover Democrat-Enterprise, a live weekly paper in a live town in Washington county, this state, has become the property of Frank LaShelle, class of 1899. Mr. LaShelle will be the editor and proprietor. He will take charge of the paper April 1.

For the last four and one-half years Mr. LaShelle has been employed in the printing department of the agricultural college. Previous to coming here he was in newspaper work in Junction City, Kan., and Wray, Colo., and was for several years foreman of the job department of the Clay Center, Kan., Dispatch. At Wray he was editor of the Rattler, a successful weekly newspaper. With his experience in both the mechanical and editorial management of a paper, Mr. LaShelle should have no difficulty in making a success of the Democrat-Enterprise.

Don't wear an evening cape when out on a shopping expedition. If you need an outer garment for general utility purposes have a semi-fitting coat made seven-eighths or full length. This will serve for evening wear if you cannot easily afford two wraps, but the evening cape always looks out of place for general wear.

PICNIC TIME IS COMING.

UNDER ORDINARY RULES CAMPING MENUS MAY NOW BE CONSIDERED.

Think Up a Few New Ways of Fixing the Sandwiches to Get Out of the Old, Beaten Path.

It's almost picnic time. Immediately your thoughts wander to the full dinner pail. What a sameness there is about picnic dinners. You can almost hear the chairman of the committee telephoning Mrs. Smithers to bring one dozen deviled eggs; Mrs. Jones for the pickles; the teacher of the young women's class to bring ham sandwiches. Did you ever eat a picnic dinner that didn't have ham sandwiches in the menu?

DEVILED EGGS, ALWAYS.

As long as picnics exist there probably will be deviled eggs and ice cream and lemonade. Perhaps there isn't anything better; but it is possible to have a few variations. For instance, why not take brown bread sandwiches? The bread for these, and all picnic sandwiches, should be baked in a round tin can to get a crust on all sides. This aids in cutting them. Then figs, dates and nuts may be ground and mixed with salad dressing for a filling. And, by the way, when you put filling in sandwiches spread it clear out to the edge. A woman who slights the edges, who is stingy with the filling, is as bad as a man who neglects to mow the corners of the front yard.

And when you are called on to bring ham sandwiches don't forget to grind the ham. Did you ever bite into a sandwich and have to maul it around, rat-terrier fashion, to get the ham? It makes even the superintendent of the Sunday school feel like swearing.

Many delightful combinations can be fixed up for sandwich fillings. Try grinding boiled eggs and lettuce. A good filling is made with cheese, either yellow or white, with nuts and pimento. A dainty sandwich can be made by laying a nasturtium leaf, which has been washed, between two pieces of buttered bread. A thin slice of pressed chicken is delicious in sandwiches.

ONIONS, TOO—MAYBE.

If you are out in the big out-of-doors you might risk onion sandwiches. They are strong favorites with many persons. After all, nine-tenths of the people like onions even if they have been taught to shun them. For onion sandwiches, shave the onions in very thin slices, and flavor with salt.

Just a few words about taking care of the sandwiches when they are made: Three or four should be wrapped in paraffin paper to keep them moist. If these packages include one of all kinds it will save confusion, for every one has experienced that strong desire to taste one of the kind at the farthest end of the table.

You may vary the details, somewhat, but the general trend of a picnic menu is the same. The sandwich problem is the most serious. After these are made not much planning is necessary.

Corduroy Skirt.

A skirt of velveteen or corduroy to be worn with one's fur coat will be found useful and in the end economical, as the skirt of the walking suit will grow shabby very quickly when worn in rough weather and under heavy fur, says the Baltimore Sun. The velveteen or corduroy is sturdy stuff and warm, and will come in for many occasions.

Don't wear French heeled shoes with your tailored suits and street frocks. They are attractive and appropriate to wear with evening clothes, or, in fact, at any time of day provided you are not going to walk.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS..... Editor-in-chief
PROF. C. J. DILLON..... Managing Editor
DR. J. D. WALTERS..... Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MARCH 23, 1912.

WHERE IS KANSAS?

Information just made public by the director of the office of public roads shows that Indiana leads all the states of the Union in mileage of improved roads. Most of the improved roads of Indiana and Ohio are composed of gravel and were, for the most part, built by the farmers in working out the taxes. In many cases the gravel is dumped on the road without proper spreading or rolling. Roads constructed in this way seldom give entire satisfaction. The eight leading good-roads states, as shown by the data compiled by the director, are: Indiana 24,955 miles, Ohio 24,106, New York 12,787, Wisconsin 10,167, Kentucky 10,114, Illinois 8,914, California 8,587, Massachusetts 8,463.

The states which are now leading in progressive road building are: New York, Georgia, Washington, Missouri, South Carolina, Alabama, Pennsylvania, Tennessee, New Jersey, Florida, and Maryland.

The gain in New York, according to the director of the office of public roads, is due largely to the fact that the state has bonded itself for 50 million dollars, and that five millions a year or more is being expended by the state, in addition to an equal amount by the counties, in building state highways. New York is leading all the states in actual progress at present, and if the pace is maintained will take the lead over Indiana and Ohio in actual mileage in a few years.

MOTHER DOES THE WORK.

The way in which water for hundreds of farm homes is supplied is a fine example of lunkhead management. Usually it is carried in a bucket from a well a considerable distance from the house. The mother usually is the one who does the act. Her wages for the time so spent, when based on the cost of operating a modern water system, probably amount to about one-half cent an hour.

A modern system of supplying water and disposing of the sewage is sanitary, and is many times safer than the usual methods. That explains why many diseases, typhoid, for example, are diseases of the country. Modern sanitary methods have driven them from most of the cities. The health and the life of the family are conserved by a proper water-supply.

SERVING A MEAL.

The value of service and preparation in serving a meal is considered from two points of view: elegance and convenience. Many meals have been made unpalatable because they were poorly prepared and were not served well. Good materials may have been used, but their good effect was lost on account of these mistakes.

Perhaps you have heard some one ask, "What is the use of serving meals in courses?" It makes a great deal of extra work." This can be answered with another question: "What is the use of eating with forks and knives? Why not eat with your hands? It is

less work and the body is nourished just as well."

These extra touches of elegance show an advance in civilization. Every day you either consciously or unconsciously rate your friends according to their urbanity and you naturally like best the most courteous ones. These things tend to raise the standard of living.

The service and preparation of a meal are invaluable, not only from the standpoint of those who eat it but also from that of the hostess, for the difficulty or ease with which a meal is served depends upon these two points.

M. H.

THE SPREAD OF EDUCATION.

Comfort should be found by educators in the report on illiteracy in the United States, just issued by Director Durand of the Census Bureau. The statement shows that in 1910 there were 71,580,270 persons 10 years old or over in the United States, of whom 5,517,608 were unable to read or write, constituting 7.7 per cent of the population.

The native whites, who constituted nearly 75 per cent of the entire population, had the smallest number of illiterates: 1,535,530, or 3 per cent. The foreign-born whites had 1,650,519 illiterates, or 12.8 per cent of their number. The negroes had 2,331,559 illiterates, or 30.5 per cent.

Comparing 1910 with 1900, there was a gain of 13,640,456 in the population of 10 years old or over, but the number of illiterates fell off 663,461. There was, consequently, a decline in the percentage of illiteracy from 10.7 to 7.7 per cent for the aggregate population.

Among native whites the number of illiterates diminished 378,081, and as the population increased the percentage fell from 4.6 per cent in 1900 to 3 per cent in 1910. Among the negroes there was a decrease of 647,864 illiterates, and a diminution of the percentage of illiteracy from 44.5 per cent to 30.5 per cent.

Among the foreign whites there was the slight increase of 363,384 in the number of illiterate persons, but as the whole number of foreign whites had largely increased, the percentage of illiteracy remains almost the same as 10 years ago, being 12.8 per cent in 1910 and 12.9 per cent in 1900.

HERE IT IS: SWAT THE FLY.

One fly—the common garden or house variety—has been estimated to carry 6½ million bacteria.

No other species of insect in this country is responsible for so much worry, torment, pollution, disease and decay as the common house fly. It has been declared by authority that more soldiers were killed in the Spanish-American war by house flies than by Spanish bullets. The most dangerous places for the United States soldiers were the fly-infested camps where open garbage pail and nearby mess tents furnished ideal conditions for the flies and disease. It is not only the carrier of typhoid, but of cholera, cholera morbus, and other intestinal diseases and possibly tuberculosis and some diseases of the eyes.

The fly should never be allowed to alight on an infant, nor should it be allowed in a room where a person is ill. All materials from the room should be removed, and the bandages burned immediately. Be sure that all windows are screened.

Manure piles must be abolished and stables kept clean. Receptacles for garbage must be tightly closed. Inspectors should be employed in every city to prevent accumulation of filth, and the coöperation of every one to make these conditions possible, should be insisted upon.

E. A.

HELPING THE CHILDREN.

Once more the busy McKeever is out with a book. This time his work, bearing the title of "Farm Boys and Girls," is issued by the MacMillans of New York as one of the Rural Science Series, edited by Liberty H. Bailey of Cornell. The volume is intended, chiefly, for parents and teachers, and others interested in the welfare of country children and the improving of country life, generally, but it would

A Golden Text.

Happy is the man that findeth wisdom, and the man that getteth understanding:

For the merchandise of it is better than the merchandise of silver, and the gain thereof than fine gold.—Proverbs 3: 13, 14.

be mighty instructive reading for any boy or girl sufficiently mature to put a proper value on such material.

Many of the books dealing with the subject of which Professor McKeever has written are notable examples of theorizing, and rural conditions, or anything having to do with boys and girls, are dangerous topics for such treatment. The present volume contains very few suggestions that are not based upon actual experience. The material it contains has been gathered from a wide field of endeavor. It includes quotations from the writings of many noted persons who have given particular attention to the questions under discussion. In addition to the valuable helps obtained from these sources, Professor McKeever's book gives, at the end of every chapter, a list of references that is certain to be valuable. The 325 pages contain many illustrations showing rural schools and churches and gardening scenes. The book is

tific agriculturists. It is declared, too, as one of the advantages of wireless electricity, that it will be possible to control the weather in any locality to the extent of either preventing or producing rainfall to meet soil and crop requirements.

"Of the two thousand million acres in continental United States, about half is estimated as being capable of cultivation in its present condition. Some of this is so dry you wouldn't think of raising even an umbrella on it. In 1910 our improved farm lands amounted to four hundred and seventy-five million acres. Irrigation and drainage are the principal factors that must solve the problem in the cultivation on most of the remaining vast areas that may be reclaimed and made tillable."

This power, it should be explained, is to come from the great waterfalls and streams of the world. Zambesi Falls, in Africa, probably the world's greatest waste of power, Niagara Falls and the big rivers will do the work of the future, if Tesla's wonderful imagination is in perfect working order.

SOME BIRTHDAY JOYS.

A Few Suggestions to Help in Arranging the Children's Parties.

Let the children celebrate their birthdays. If the family measures up to Roosevelt's ideals as to numbers,

Obedience.

We mustn't be in a hurry to fix and choose our own lot; we must wait to be guided. We are led on, like the little children, by a way that we know not. It is a vain thought to flee from the work that God appoints us, for the sake of finding a greater blessing to our own souls; as if we could choose for ourselves where we shall find the fullness of the Divine Presence, instead of seeking it where alone it is to be found, in loving obedience.—George Eliot.

dedicated "To the ten million boys and girls enrolled in the rural schools of America." There are twenty chapters.

FARMERS AND THE WIRELESS.

It may be many years before the wireless transmission of power will make life easier for farmers and their families, but the fact is worth considering that in 1912—and for several years, indeed—one of the world's greatest scientists, Nikola Tesla, has had it in mind. Electricity has been tried, successfully, in California to increase the productivity of land, but it was an expensive experiment. No doubt remained that the treatment on worn-out soils was exactly what was needed.

Tesla has declared, recently, that within a few years power will be transmitted, wirelessly, to as many of the six million or more farms of the United States as may be desired, and at a cost so low that every farmer can afford it. Gas or gasoline engines will no longer be needed. Says the *Rocky Mountain News*:

"Through the perfection of his discovery Tesla will provide a way to deliver to every farm, not alone in the United States, but in the universe, enough electricity to apply the treatment effectively. And, presto! the farmer who, to-day, rides a plow behind a team of horses or draws a gang behind a tractor, may, to-morrow, in similar fashion, ride an implement operated by wireless power, by which the soil, instead of being turned over as with the plow, will be lifted in furrow-deep slices and run through a wonderfully contrived machine in an endless ribbon, broken up into minute particles and made loose as ashes as it undergoes the necessary treatment by electricity, furnished as part of the wireless transmission, thoroughly pulverized, and made firm as it leaves the implement into a perfect seed or plant bed, charged with sufficient available and soluble plant food to produce a quantity and quality of crop yield beyond the present expectations of the most sanguine of modern sci-

every child, probably, cannot celebrate every year. The resourceful mother can arrange some satisfactory system of rotation and some observance can be paid to the family birthdays.

It is very pleasant to entertain some little friends of the fortunate one at a birthday dinner. A few novelties in the way of things to eat might be suggested.

Little boxes, paper suitcases, and hollow toys may be filled with dainty candies, and placed at each plate. These will be a source of delight.

Cookies cut in the shape of a man can be put at the places to hold the place card, if the children are old enough to read.

Square wafers may be pasted together in the shape of baskets. The white of an egg or cake frosting may be used for this. Handles are attached and the baskets are filled with whipped cream, salad, or ice cream.

English walnuts may be broken open carefully and the meats removed. Some wish for the future welfare of the little hostess or host is written on a small piece of paper, folded and inserted. The halves may be glued together again. The wish may be written on a piece of paper cut in the shape of a sail. This is stuck with a toothpick into the end of a banana, hollowed out in the shape of a boat.

Just about the best part of a children's birthday dinner is the cake, decorated with candles and candies. Pull down the curtains or turn out the lights when the cake comes in, if you want the best effect.

A Combination Dish.

The combination cut glass and crystal cheese and cracker dish, a two-piece affair with the crystal cheese comport in the center, has been improved upon since its first appearance in December. This dish lends itself to so many useful and decorative purposes that it is becoming more and more of a general utility tablepiece. The large dish now ranges from ten to twelve inches in diameter. A boat-shaped celery tray is another cut glass novelty that appeals to public favor.

Unvarnished Truth.

BY RENICE RADCLIFFE.

You may sing of the joys of the household. The mother an unvarnished queen. Her scepter a wand of submission. Her dominion a blissful scene. But if you bent over the wash-tub. When the earth and the skies were gray. When the baby was ailing and fretful. And a caller had "dropped in" to stay— If you turned the old crank of that wringer. You'd sing in a different way.

You may rave of the home's sacred altar. Where the love lights perpetual shine; Where Joy burns incense forever. At the portal of Duty's shrine. If you started the fire in the kitchen. As you looked at the frost-covered pane; If you breathed the soot and the ashes. While you searched for some fuel in vain; If you managed the lamps and the heaters. You'd rave in a different strain.

You may preach of woman's high mission. To comfort the care-laden breast; Preparing food for the hungry. A couch where the weary may rest. But if you did the cooking all summer. While the city guests lolled in the shade; If you swept and dusted and mended. After the beds were made— Were you paid in this coin for your labor. You'd admit she was underpaid.

—Farm Journal.

SUNFLOWERS.

Arthur Stilwell always has been a good actor. He might try the stage; it needs promoting.

Grant Landrey of the Argentine Republic has gone on a journey to Philadelphia, and is writing travel letters to his paper.

What has become of the city farmer who shows up about March 1, every year, with the first tomatoes and other garden truck?

The "Little Theater," in New York, is to present intimate drama. Is this perfectly proper and respectable, and all that sort of thing?

In China the Tongs are getting ready for war. In Kansas the tongs are getting ready for work. Call in the dog, Willie, the iceman's coming.

The Coldwater *Talisman* announces a wedding, this week, under the heading: "Hunt-Butts." Thus is the pernicious cigarette habit—

A famous London chef, fat and wealthy, has cooked one and one-half million chops. He certainly ought to have a stake by this time.

Henry Harig of St. Louis shot at a cat and killed his son. Lucky he wasn't shooting at a horse. His wife might have been endangered.

Concrete facts, from *The Star*: Henry McGrew, president of the Bonner Portland Cement Co., is to build a cement and concrete house costing \$12,000.

More work for the locksmith: Mayor Brown of Kansas City has given the keys of the city to the cement dealers, in convention assembled. What becomes of all these keys?

Lotta Crabtree, the once popular actress, long retired to spend her fortune, bought real estate in Kansas City. May we be permitted to remark that she displayed Lotta good sense?

"The fire," says the *Soldier Clipper*, referring to its only big story, "is the only news we know." And doubtless most of the subscribers had heard of that. A country editor does have to hustle.

"The world is filled," said Miss Augusta Wind, "with men and women who hate anyone who gets things done. Don't ever let that kind of 'knocking' spoil your dinner or your sleep."

"A downward jump of 2000 feet," says the *Ottawa Republic*, commenting upon the parachute act of Edwin Barry, "attracted only 200 persons in St. Louis." Edwin might try jumping straight up, or sideways.

The class is assured that the reporter in the Craig Kennedy detective stories of A. B. Reeve is not the real thing. He never writes a word for his paper, and, up to date, never has found a story he could print.

We have received another exciting volume. This one is entitled "The Religious Possibilities of the Motion Picture." It is written by H. A. Jump, which we consider an excellent name for one interested in the motion business.

Old newspaper reporters can easily understand why T. R., with all his undoubted merits, objects to Chairman McKinley's using the expression about "the rules of the game." It is against the rules of the game for anyone, except T. R., to start new phrases or revive the old ones.

ALUMNI NOTES.

E. L. Westover, '11, is teaching and studying at the University of Minnesota.

M. C. Stromire, '11, is teaching in the high school at Fredonia, Kan.

Miss Charlaire Furley, assistant in English, will attend the University of Chicago, during the summer, working for a master's degree.

"F. Weber and A. McMillan, of the local office of the United States Geological Survey," says the Albany, N. Y., *Evening Journal*, "have returned from observations made by them at North Creek, Wednesday and Thursday. Under the highway bridge they found the ice in the Hudson river to be 44 inches thick, believed to be a record for some years."

Frank Weber will be remembered in Manhattan as a member of the '10 class of civil engineers of the college, entering railroad work just before his graduation. He was called, last July, from the Santa Fé engineering department at Pueblo, Colo., to a position with the U. S. Geological Survey with orders to report at once to Albany, N. Y. After the required six months, he received, January 1, 1912, his notice of permanent appointment in the department, under civil service, with a substantial raise of salary. Owing to the illness of one member of the staff, Mr. Weber has had to make most of the out-trips of the office in measurement of ice gorges, and other things connected with the exploitation of water resources. A number of these trips have been made upon snowshoes, going even as far as the Canada line. He and Mrs. Weber (Miss Lulu H. Docking, '09) live in Albany.

The annual reunion and dinner of the Kansas City branch of the Alumni Association was held at the Densmore Hotel the evening of March 9. Owing to the inclement weather there was not as large an attendance as usual, but those who went were unanimous in their verdict of an unusually good time.

The eight-course dinner was a progressive conversational one, the gentlemen moving up two vacant seats at the end of each course, and in that way each had the privilege of conversing with sixteen women at the table. The menu, with topics discussed, was as follows:

Oyster Cocktail.....	Politics
Consommé in cups.....	The American College.
Celery, Radishes.....	Is It Adequate?
Baked Halibut.....	Brain Food
Tenderloin of Beef.....	K. S. A. C. Athletics
Mashed Potatoes.....	Caulliflower
Lemon Sherbet.....	Spring Hats
Lettuce and Tomato Salad.....	College Pranks
Ice Cream and Cake.....	Our Alma Mater
Roquefort Cheese.....	
Wafers, Small Coffee.....	

After the dinner, while seated at the table, the guests listened to two excellent talks from Prof. Albert Dickens and Mrs. Mary P. Van Zile, representing the Kansas Agricultural College. The following officers were elected: Eusebia Mudge Thompson, '93, president; William A. Anderson, '91, vice-president; Horace G. Pope, '94, secretary.

H. C. Rushmore introduced a recommendation to the regents that the \$20,000 Wilson Fund be appropriated for a Y. W. C. A. building, on the college campus, if possible, the alumni of the college raising a like sum for the purpose. This recommendation was adopted, and Mr. Rushmore was appointed to bring the matter before the proper persons. The matter of having monthly luncheons down town was discussed, and George W. Smith was appointed to make the arrangements. An announcement concerning this will be made to the association later. Any alumni and former students living in the vicinity of Kansas City are urged to get in touch with this Alumni Association. Names and addresses may be sent to the secretary, Horace G. Pope, 3510 East Tenth street, Kansas City, Mo.

The following graduates and former students were present: H. C. Rushmore, '79, and Mrs. Rushmore; Belle (Selby) Curtice, '82; Albert Deitz, '85, and Mrs. Deitz; W. A. Anderson, '91, and Mrs. Anderson; John O. Morse,

'91; Albert Dickens, George W. Smith, Eusebia (Mudge) Thompson, '93; Winnie (Romick) Chandler, Lorena (Helder) Morse, '94; C. D. Adams, Ted W. Morse, Dora (Thompson) Winter, '95; A. T. Kinsley, '99; Clarence A. Chandler, '00; Anna (Smith) Kinsley, '01; Richard F. Bourne, '03, and Mrs. Bourne; Maud (Failyer) Kinzer, '03, and R. J. Kinzer; Arthur H. Helder, '04; Fern Jessup, Ellen Batchelor, '11; C. H. and Agnes (Fairchild) Kirschner, Elizabeth Kramer, H. G. Weirunga, Miss M. L. Miller, and Verona Graybill.

THE LAWN NEEDS FOOD.

Don't Overlook These Things if You Value a Greensward.

Sure, the lawn ought to be fertilized. Nitrate of soda is the commercial fertilizer to use if quick results are desired. The right amount to be applied to the acre varies from 100 to 200 pounds, and the cost varies from \$16.50 to \$33 an acre. It is sold usually in the powder form, and is readily soluble in water. It may be applied in the wet or dry form, but when applied dry should be spread just before a rain. Other less important com-

THE PATIENT MADE EASY

A NEAT TRAY, DAIN'TILY ARRANGED, IS THE SECRET.

For a Child, Use Dishes With Pictures and Change Them Frequently—It's Possible to Make the Invalid "Enjoy Poor Health."

All the medicines the doctor can prescribe will not do so much toward giving invalids an appetite as will a daintily arranged tray. At best, the food permitted by the doctor in many kinds of illness cannot be accurately described as tempting, even to an appetite not disordered by illness. Meal time often is more of a necessary evil than a welcome break in the monotony of a day in bed.

But if the nurse has had a course in therapeutic cookery, such as is taught in the Kansas Agricultural College, she should be able to make the afflicted one feel comfortable. In this course diets for various ills are studied and later prepared in the laboratory. A model invalid room also is maintained.

A PICTURE IN THE BOWL.

Everything should be done with the purpose of taking the patient's mind

it is true, but they go a long way toward lessening the discomfort of illness, and help, as the dear, old lady once said, to make persons "enjoy poor health."

FOR A SCHOOL LUNCHEON.

A Few Extra "Fixings" Now and Then Add Much Attractiveness.

Why not make the school luncheon more attractive? Unless a child is properly fed or nourished he cannot properly do brain work.

The luncheon box should be of such a type that it can easily be kept clean. Paper napkins have enlarged the possibilities of daintiness and attractiveness of the school luncheon, and have cut down laundry bills. Plain, white napkins can be purchased by the hundred, an economical way to buy.

All sandwiches and cakes, and similar foods, should be wrapped in paraffin paper. It makes it possible to keep one food from adhering to another, and keeps things fresh. In preparing a luncheon the same system may be followed as in planning an ordinary diet. The person for whom the luncheon is intended must be taken into consideration. For instance, a growing child needs more protein, and less carbohydrate food. Of the proteins, may be used cheese sandwiches, meat, or egg yolk filling sandwiches, or a bottle of milk. Fresh or dried fruits may be used, but to the child the fresh fruits are more pleasing.

If an orange is used, there are many attractive ways of peeling it. Bananas should be very ripe, as otherwise they are difficult to digest. Pickles or olives should be wrapped in paraffin paper. Of the sweet things, plain cake, cookies, sweet sandwiches, chocolates or candy may be used. The main idea is to fix the luncheon as attractively as possible. Children soon tire of cold luncheons. If little surprises are added, the appetite is stimulated, and the digestive juices flow much more rapidly.

THE RIGHT WAY TO DO IT.

Some Household Hints for the Work that Comes Every Day.

To clean mirrors, dip a piece of soft cloth into alcohol and rub lightly.

To prevent a flaring gas flame, remove the tip, put in a small pellet of cotton and replace the tip.

When frying mush, dip the pieces first in white of egg to make them crisp.

Grease From Wall Paper.—To remove grease spots from wall paper sprinkle a piece of blotting paper with baking soda and hold it on the grease spot. The blotting paper will absorb the grease and the soda prevents injury to the colors in the wall paper.

Open canned fruit or vegetables and pour into a dish several hours before they are served.

Heat your plates before putting hot pies on them when first taken from the oven. The hot pies on cold plates cause a sweat that makes soggy under crust.

The flavor of a cup of cocoa is often made more delicate if the least bit of vanilla is placed in it.

By heating a lemon thoroughly before squeezing it nearly twice as much juice will be obtained as otherwise would be the case—a bit of economy easily put into practice.—*Farmers' and Drovers' Journal.*

Silo Insurance.

The popularity of the silo is not local. Silos are found now from Kansas City to Coolidge. The farmers of extreme western Kansas see in the silo a refuge in the time of drouth. The farmer in western Kansas who has a silo filled with kafir is to be congratulated. The full silo with a few dairy cows, pigs and chickens is agriculture's best accident insurance. It means a living for the family and a steady income to meet interest payments.

Don't wear colored or fancy open-work stockings with your street shoes; always choose plain stockings to match the shoes in color.

KILL THAT MELON BUG.

WHALE OIL, OR LAUNDRY SOAP, AND WATER WILL DO THE WORK.

Doctor Headlee Gives Valuable Suggestions About the Vicious Little Insect That Ruined Some Garden Crops Last Year.

Know how to get rid of the melon aphid, the little bug that spoiled your crop, last year, and got away unharmed? This is the way:

Spray the vines with a mixture of eight pounds of whale oil or laundry soap to fifty gallons of water; or one part "black-leaf 40," a tobacco concoction, to 1000 parts of water to which whale oil or laundry soap has been added at the rate of four pounds to fifty gallons of water, says the professor of entomology at the Kansas Agricultural College. These mixtures have been successfully used by Professor Headlee in recent experiments carried out by the college.

USE A KNAPSACK SPRAYER.

"The spraying must be so carefully done that all the insects will be wetted by the solution, or the remedy will be unsatisfactory," he said. "A knapsack sprayer with an extension rod that will reach from your hand to the ground is a good apparatus with which to make the application. The extension rod should be turned up at the lower end at an angle of 45 to 90 degrees and capped with fine-holed nozzle, so that the mixture can be shot as a fine mist against the under side of the leaves, from below.

"The grower should watch closely for the first of the insects. As soon as they are found the infested vines should be thoroughly sprayed. This louse not only attacks the watermelon, but also the muskmelon, cucumbers, cotton, and various weeds. They are seen first on weeds in the early spring, and after the domesticated plants have made a start, winged forms fly to them. They locate on the under sides of the melon leaves, insert their beaks in the tissue and suck out the sap, causing the leaves to curl, and wither, and finally die. This pest is very common in Kansas, and is one of the worst with which melon growers have to contend.

HOW TO IDENTIFY THEM.

"Both the winged and the wingless varieties are produced while on the weeds. The wingless variety is about one-fifteenth of an inch long. It varies in color from light tan to deep olive green, which appears almost black, the abdomen being more or less mottled. The winged female is about the same length. The wings expand about one-fourth inch. The color varies as in the wingless form, but there are black spots along the abdomen.

"The insect passes the winter as an adult louse, and it is quite probable that eggs are produced. It is sought by a great number of parasitic and predaceous enemies, among the most effective of which are the lady bird beetles, syrphus flies, and the four-winged fly, that also destroys the green bug of the wheat. It is hardly safe to depend on parasites to kill this pest, as much damage may be done before it succumbs to the enemy. They may completely ruin a crop just as it is beginning to ripen. All weeds near the vines should be destroyed.

Worth Knowing.

A small dish of fine charcoal kept upon a shelf of a dark closet or in the refrigerator, and renewed every week, will absorb all odors and keep the place fresh and sweet.

Nickel ornaments on stoves, etc., may be kept bright by using ammonia and whiting. Mix together in a bottle and apply with cloth. A very little polishing gives a fine luster.

The best method of removing rust from a polished stove or grate is to scrape down to a fine powder some scouring soap, put it into a little oil, and rub the spots well with a piece of flannel dipped in the mixture; then apply some whiting and rub in well. Repeat this process daily until all traces of the rust have disappeared.—*Ottawa Citizen.*

Some Drainage Proverbs

The Kansas Agricultural College Believes in Farm Drainage

Do not let your soil wash away.

Alfalfa cannot stand wet feet.

Good corn does not grow in a duck pond.

Coöperation in drainage is sometimes a necessity.

Cut the timber on the river bank and use it for fire wood.

Tile drainage unlocks the stored-up plant food in the soil.

A clean river channel will carry from 20 per cent to 40 per cent more water than an obstructed one.

Proper soil drainage prevents contamination of the water-supply.

Improper drainage causes malaria, typhoid, dysentery, rheumatism, and pneumonia.

cial fertilizers are: bone meal, wood ashes, guano, phosphates, and calcium. Calcium or lime is often used to improve the texture of heavy clay soils. Any type of hand grass seeder may be used to good advantage in spreading the powdered commercial fertilizers. Hand sowing is the usual method for small lawns.

It is less expensive to apply 20 to 30 loads of well-rotted manure to the acre before the lawn is seeded, after which smaller amounts of the costly nitrate of soda will be required, or a manure mulch may be used with almost as good results. But such a mulch should be applied in the fall as soon as the ground freezes. In the spring, when the frost is out of the ground, this mulch should be removed by raking. Whatever manure remains after raking will add plant food to the soil, and will not seriously affect the beauty of the lawn.

It is less expensive to apply 20 to 30 loads of well-rotted manure to the acre before the lawn is seeded, after which less amounts of the costly nitrate of soda will be required, or a manure mulch may be used with almost as good results. Such a mulch should be applied in the fall as soon as the ground has frozen. In the spring, as soon as the frost is out of the ground, this mulch should be removed by raking.

Don't wear shoes or gloves that have lost their buttons, and never wear shabby shoes or gloves if you can possibly avoid it. Keep the former nicely polished and the heels straight; keep the buttons and the rips mended in the latter.

away from his illness, the young women are taught. The tray should be arranged as nearly as possible in the same manner that a cover is laid at the table, and only the prettiest silver and china should be used.

Children, especially, like a change of dishes. The same broth three times a day will not seem nearly so tiresome if it is served every time in a gay bowl of a different pattern. Often a child will eat every drop of a distasteful gruel for the sake of seeing the picture in the bottom of the bowl. If the sick boy will not eat his toast, try cutting the slice of bread into a fancy shape with a cookie cutter before toasting it. A lion or a horse is much easier to "swallow down like a little man" than is a plain, hard slice of toast.

THINGS THAT ARE CHEERY.

Grown-up patients, also, like a little novelty about the meals, but in a different way. A tiny sprig of green from the world of out-of-doors, or a cheery flower, a bit of verse, or some funny little story cut from a paper and placed at one side of the tray, will help out, wonderfully.

Never ask a person who is ill what he would like for his meal. He usually answers, or feels like answering, "O, I don't know. I don't really want anything." Even such slight matters as deciding what one would like worry the sick person, especially if, as frequently happens, the only thing he really craves is just what the doctor has forbidden. If he doesn't know what food to expect, it will be improved with a pleasant flavor of surprise when it comes.

Such little things as these cost effort,

MILK MUST BE CLEAN.

CAREFUL HANDLING MAY REDUCE THE DANGERS ATTENDING ITS USE.

Germes Reach the Consumers from the Most Unexpected Sources, Every One of Which Might be Safeguarded—A Milker's Duties.

Milk is one of the principal carriers of disease germs. It is impossible to keep it free from germ life, but with care the danger can be greatly reduced.

As a rule, the largest number of germs finds a way into milk during milking. The milker usually rests his head on the cow's flank directly above the pail, thereby letting dirt, scurf or hairs from the cow drop into the milk pail. The cow probably has been standing in a mudhole in the pasture, and the udder, body and tail are covered with dirt and filth, and of course, the spores and germs from the stagnant water in the pasture are brushed off during milking and drop into the milk.

STRAINERS TELL STORIES.

One has only to take a casual glance at the strainer, after the milk has passed through, to see the straws, the hairs, and the dirt, all of which are teeming with germ life. It has been found that one-half of the impurities go into solution before the milk reaches the strainer. The remedy for this is to reduce the time between the milking and the straining.

Contamination, however, does not come only from the cow, but from the milker, from his clothing, the strainers, receptacles for holding and cooling milk, and from the pail itself. All utensils should be thoroughly sterilized, and the milker's clothing and hands be clean. The udder should be thoroughly washed before the milk is drawn. The barn should be well ventilated and lighted. Assuming that the cow is in a healthful condition, as all milk cows should be, the next consideration is the feed, the general care, and the surroundings. Pure milk can be obtained only by proper feeding. The water-supply should be pure.

STIR AND COOL QUICKLY.

As soon as milk is drawn it should be stirred and cooled. The cooler the milk, the less active the bacteria. After it is strained it should be covered.

By no means should any one suffering from a contagious disease, or one who has been caring for a diseased person, be allowed to go near the stable or milk room, or to handle milk utensils.

Contaminated water containing typhoid bacilli sometimes is used in cleaning or rinsing the utensils, and the disease is thereby communicated to the consumers along the milk route. It should be remembered that milk is an excellent medium for the growth of disease bacteria. The comparatively few bacteria carried in a little water, a speck of mud, or on the legs of a fly, begin at once to multiply and soon reach dangerous numbers.

HOW ABOUT SOILING?

A System of Feeding Dairy Cattle that is Favored by Many.

Some farmers say that to adopt the soiling method of feeding means added labor and expense, forgetting that they can double the profits with one-half the land. As for making more labor, it has been demonstrated that soiling saves labor. To the farmer who does his work in a half-hearted way it may not save labor, but certainly it will not make him any more work, for in any case the feed must be cut and hauled to the barn.

If farmers are against complete soiling, the practice of partial soiling may be tried. This consists in keeping the cattle in lots during the day, feeding them liberally with green forage, and turning them out to pasture at night, when it is cool. This practice is especially good during the summer when the heat is excessive and the flies troublesome. This practice also stops the reduction in milk flow that is so common during the hot months. Partial soiling is adapted to the central and western states,

while the complete soiling is practiced in the East to a great extent.

When a soiling crop is fed, one must take into consideration that green crops contain large amounts of water and in many cases an animal cannot consume enough of such foods to get the proper nourishment. It is always advisable, therefore, to feed some dried food with the green food.

Corn silage is fast being adopted by the soiling feeders. It is considered by stock feeders to be next to the green food itself. It can be stored in the fall and fed through the winter, and if there is any left it may be fed during the summer. In fact, many dairymen are using the silage for summer feeding, and say the results obtained are excellent.

DON'T BURN THE STRAW.

Put it Back on the Fields, a Crop Expert Says.

Don't throw away your straw. Don't burn it. Spread it back on the fields. It adds humus to the soil and helps to conserve moisture. One hundred pounds of humus will hold one hundred and fifty pounds of water, while an equal weight of poor, thin soil will hold only forty pounds. W. M. Jardine, professor of agronomy at the Kansas Agricultural College, tells how this straw best may be put back on the land:

"Several methods for scattering straw may be used. Using the header barge in windy weather is one way. Another method is to load the straw on the barge in big loads in calm weather and unload in rows behind the barge. These rows can then be scattered some windy day. But the best way, I believe, is for several farmers to coöperate. Two or three header barges and one manure spreader are required. The spreader is kept going continually and the barges haul the straw to it. The straw should be scattered thinly. It can be applied profitably to all kinds of land."

Wheat straw as a feed is not valueless. In many places in western Kansas farmers are offering \$2 a ton and freight for good straw. This food furnishes a large amount of energy in the masticating processes, and this is of vital importance to animals during the winter. Straw should be fed with some other food that furnishes the food elements lacking in straw. Cottonseed cake and straw make a good feeding ration for cattle.

HAVE THE STABLE SANITARY.

Windows, Properly Hung, Admit Light and Air, and Insure Health.

Windows in a stable make it sanitary. Darkness and dampness go together. Both are harmful to live stock. Then, darkness in stables greatly hinders work. A man in a well-lighted stable can accomplish from 25 to 50 per cent more work than if he has to labor in a dark one.

Large windows should be used in lighting a stable and they should be put rather low. More light will be diffused through a large window than through several small ones. Windows too high do not admit the light properly, while if they are too low, there is danger of breaking the glass.

One of the best methods of opening windows is used in the buildings at the Kansas State Agricultural College. This is to have them slide downward, with a catch so they can be held at any point. When the windows are hung on hinges and open inward they are more or less in the way and can be opened only part way. When made to open outward time is lost, and it is hard to fasten them. If they swing on a pivotal rod in the center, they admit too much cold air in winter. If the windows are made to slide they work well in summer, but not in the winter. Where the winters are very cold double windows are suggested.

Steam Out Wrinkles.

To remove wrinkles from clothes, hang the articles in the bathroom, shut the door and windows, turn on the hot water to fill the room with steam and leave the clothes for an hour or two. Dry in the open air, if possible.—Chicago Drivers' Journal.

It's Time to Talk About

Contests for the Boys and Girls

The Program for 1912 is Ready

Nothing so attractive ever has been prepared. The small towns and communities have missed many fine chances for interesting, healthful and profitable work, in past years. THE STATE AGRICULTURAL COLLEGE hopes to change these conditions. It

Wants Every Girl in Kansas

To Enter the

Tomato-Growing Clubs

Flower Garden Contests

Butter-Making Contests

Family Garden Contests

Bread-Making Contests

Mending and Sewing

Jelly-Making Contests

Contests for Girls
IN TOMATO GROWING
Easy, Interesting Work

One rod square is enough for 16, 20 or 25 plants.

The girls must do the work after the first plowing.

SPECIAL ATTENTION

VEGETABLES

TO CANNING CONTESTS
THIS YEAR

FRUIT

Potato-Growing Contests

A plot about 50 x 50 is suggested for this work; variety planted to be left to contestants. Method used to be recorded for use, later. Prizes are recommended for the best ten potatoes, and for the largest yield. KANSAS NEEDS MORE POTATOES. GROW THEM.

The Boys' Corn-Growing Contest for 1912

AN ACRE-YIELD HONOR ROLL
A FIVE-ACRE-YIELD CONTEST

The Bankers and the Commercial Clubs of the state are helping. Several Banks already have agreed to send boys—one or two—to the State Farmers' Institute at the Agricultural College next December. This influence, with that of the local institutes, should spur the boys to big things, this summer.

Four Sets of Prizes!

The usual classes, a Special, and the Extra Inducements for Big Yields. You might get a trip to the State Institute, next December, when the Corn Show is on. Four days of corn and stock judging. Four days of helpful talks. Think it over, Boys.

The general contest will be limited to boys between ten and twenty-one; Class B, boys from ten to fifteen, and Class A, boys from fifteen to twenty-one. Boys who will be fifteen years old by July 1, 1912, may be admitted into Class A.

Can you produce 75 bushels an acre?

Can you produce 60 or 40 bushels?

Every active Kansas boy ought to win under one of these classifications.

Address, for further information,

Director of College Extension, Box G

Kansas State Agricultural College, or Your Institute Officers

CAREFUL OF THE DYNAMITE.

It is Intended Only to Loosen the Lower, Packed Soil or Hardpan.

If you want to save labor and expense in putting out your young orchard, Mr. Farmer, use dynamite, but first be sure you do not mistake your purpose. Contrary to popular ideas, explosives are not intended to take the place of a spade or auger, but to loosen the packed layers beneath, and jar up the subsoil.

It is dangerous to set trees in the holes, just as they are left by the explosion. When the charge is lowered into the subsoil the dirt is torn from the sides of the place where the dynamite was put, little of the force going upward. This leaves a jug-shaped hole below the tree. Water collects in this cavity and the roots grow into it, making the tree grow in water. Of course, the roots soon rot and the tree dies.

Experiments have been made at the Kansas Agricultural College along these lines. At Hays a large number of trees were tried out in this manner and it was found that where no attention was given, other than covering the roots in holes made by the dynamite, a very great number died. Where dynamite was used and the pot or jug was filled with soil, they not only lived but did better than if the

place had been made with a spade alone. Forty or sixty per cent dynamite may be used, according to the soil. It doesn't cost very much and the soil is greatly benefited.

To Sew on Braid.

When sewing braid on the bottom of a skirt, have a small opening in a seam of the facing and insert a piece of celluloid or stiff, smooth cardboard about one inch wide and four inches long; then slip it along under the braid as you hem it down. You will be surprised to see how quickly you can accomplish the work.—Pictorial Review.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, March 30, 1912

Number 23

YOU NEED SEVEN PINTS.

THIS REFERS TO WATER TAKEN INTERNALLY, DAILY.

Drink Plenty of It and Your Old Ailments Will Disappear—Water Washes the Accumulating Poisons Out of the System.

The water wagon is a good place to ride. Most Kansas people believe this and are hanging on somewhere, but the healthiest, wealthiest and wisest people are sitting right on top with the driver. The State Board of Health gave the sassafras tea fiends a hard jolt when it denounced spring "blood purifiers" as spring fakes and recommended that they make garden or clean the back yard for their health. If, after reading advice so persuasive as that, you still want to "take something," take water—lots of it, externally and internally. You'll have to begin early and keep at it late every day if you drink all that you need. An adult thrives best if he consumes at least seven pints of water a day. This means fourteen glasses. Sounds big, doesn't it? There must be a reason.

AFTER A BIG DINNER.

Water is necessary to carry off the body waste products. Only a certain part of the food is used to make muscle and brain. The rest cannot possibly be of service, and in most cases acts as a violent poison. If a person eats a big dinner—a genuine country dinner—he forgets those golden texts on temperance and consumes meat, cheese, eggs, milk and ice cream in abundance. All goes well, perhaps, yet there is another side to the question.

The principal waste products in this case are uric acid and urea, both of which are extremely poisonous. An excess of uric acid in the system will cause severe headaches, and convulsions. So mother has another of those sick headaches or father is laid up with rheumatism. If they had been drinking enough water, it would have diluted the poisons and no harm would have resulted.

There is a very popular fallacy abroad, namely, that a person should never drink water with his meals. There is one and only one danger in this. That is the temptation to wash down half masticated food with water. There is one distinct advantage in the digestion of food when water is taken with the meals. As food is swallowed it goes to the stomach in a lump about the consistency of a bread dressing. One can see that it requires a great length of time for the digestive juices to penetrate the mass and come in contact with the food particles. If the food is diluted with water, the digestive juices can easily have access to it.

DRINK WATER—DON'T WORRY.

In this and in other ways water keeps the digestive tract clean. If people drank enough water, there would be no operations for appendicitis. If you are haunted by the fear of that ill; if your brothers and aunts and uncles have died with it, just drink water and stop worrying. Every case of appendicitis is preceded by constipation. Water is the best preventive for this.

Too many persons are scrupulously careful about their neck and ears, but have the dirtiest digestive systems imaginable. They fill their systems with liver pills and continue to feel miserable, while a good dose of water six times a day would bring them out of the kinks, and quickly, too.

A certain authority was heard to remark that seven pints of water taken internally, and seven gallons applied externally, every day, would keep a person in good health. Seven gallons a day is not too much for the purpose, either. Most of the waste products,

especially the uric acid and urea, are thrown off by the kidneys and skin. When the pores of the skin become clogged up, extra work is thrown on the kidneys. Often the strain is too great for them. The bath is a good thing not alone from an ethical standpoint, but as one of Nature's requirements.

NOT ENOUGH SPUDS GROWN.

Too Many Farmers Are Buying Them Every Year.

Queer sight to see farmers buying potatoes, isn't it? Strange that many fail to grow enough for family use, anyway. But it's true in hundreds of cases, right here in Kansas. A car of potatoes unloaded in a certain town, last December, while a lecturer from the Kansas Agricultural College was there, was sold exclusively to farmers, at the car. Another farmer, in the same place, grew enough potatoes on one acre without irrigation for his family of five. He didn't have to buy a spud until new potatoes came.

The produce dealers in one county in north-central Kansas have shipped into that county since July, 1911, over twenty-five cars of potatoes, not counting smaller shipments. It was a bad potato season, of course, and yet one farmer in that county raised over 100 bushels of potatoes from an acre. People grumble about hard times and keep on paying out thousands of dollars for food that they should raise. Six rows, thirty feet long, in a town lot in central Kansas produced enough potatoes for a small family from August to January. In 1910, however, this same plot produced twenty-four bushels of good potatoes.

Why not a state-wide movement for "potatoes for the family." Why should not every farmer give more attention to the matter of growing this staple food? Why not set aside a good half acre on every farm on which there should be grown from fifty to one hundred bushels of potatoes? Every farmers' institute and grange in Kansas has been asked by the extension department to announce an "Honor Roll" for men or boys who will grow from a half acre over the average yield in bushels. Fix the minimum limit for each county for upland and lowland.

Disk early, plow deep, work often, don't plant all at same time, rotate, keep the half acre under control for drainage if too wet, or in moist condition if the season is dry. In western Kansas big yields have been obtained by mulching with straw, hay or trash after the first or second cultivation. In western Kansas a half acre can be made to produce two hundred bushels by irrigation from the stock well, using the overflow from the tank or by night flooding. Why not flood the "Potato Half Acre" and the whole garden, now—right away? As soon as the surface is dry, disk the ground and then flood it for one or two days, and then, as soon as possible, disk it again and plow in a week—way down deep—and then work it occasionally until planting time.

Love of Friendship.

In all holiest and most unselfish love, friendship is the purest element of the affection. No love in any relation of life can be at its best, if the element of friendship be lacking. And no love can transcend, in its possibilities of noble and ennobling exaltation, a love that is pure friendship.—*Henry Clay Trumbull.*

Drag Them.

The roads are almost impassable, which makes it very inconvenient for those who have to haul feed any distance.—*Four Corners Items in any Kansas paper.*

CORN TESTERS FOR ALL.

EVERY KANSAS TOWN TO HAVE A CO-OPERATIVE GERMINATOR.

A Critical Situation Exists as to Seed—Tests Must be Made Within a Few Weeks to Prevent Crop Failure.

The agricultural college believes that the seed corn situation in Kansas is critical. Realizing this the agronomy department has formulated a plan which, if carried out now, before planting time, should prevent a poor corn crop this year. A cooperative germinator in every town is the suggestion of the crop experts. The campaign for more seed testing, as outlined at the college, is this:

To have some individual or local organization in every town take the responsibility for obtaining a germinator and conducting a general germination test for all the farmers of the community. In many places the bankers of the town already are doing this work. When the test is completed a crop expert from the college will visit the town, open the germinator in the presence of farmers, and explain the results. If necessary the agronomy department will use its entire force in this work. Circuits are being arranged now for these seed corn testing demonstrations.

LITTLE DONE YET.

"Although we have been, for the last two months, urging farmers to make germination tests, comparatively little has been done," said W. M. Jardine, professor of agronomy, today. "In some parts of the state more than one-half of the corn saved for seed will not grow. This is because of the dry season last summer and the immature condition of the corn last fall. We have investigated the situation thoroughly by making germination tests of corn from various parts of the state. With a germinator in every town I believe we can, within the next few weeks, determine what seed in the community is fit for planting and what seed will not grow."

BEGIN AT ONCE.

Whoever undertakes to conduct the test should buy a germinator, or make one, and begin to collect seed samples at once. The agronomy department will furnish complete information about making the test, but here are some of the essential points to be followed: Get a large, shallow box for the germinator. The box should be filled with sand and divided into squares by driving small nails along the edge two to four inches apart and fastening cords both ways across the top of the box, dividing it into squares. Number the samples and place several kernels, taken from different parts of each ear, in a corresponding square. Moisten the sand well and keep the tester in a warm room. In five to ten days an examination may be made.

NEED HELP ON YOUR SILO?

The College Will Send an Inspector if You Wish.

Many letters have come to the agricultural college, recently, relative to building concrete silos. It has been decided that one or more men will be detailed this spring to give personal supervision in the erection of a limited number of the solid-wall, reinforced, and also the thin-wall, or metal-lath, concrete structures. This man is paid by the college, but his traveling and living expenses incurred on these trips must be paid by the persons benefited.

It will be impossible to assist in the erection of a large number of silos, but it is hoped to distribute these to as great an extent as possible throughout the counties where cement silos have not been previously erected.

Western counties will be favored as far as demands from that section warrant, as heretofore the energies have been devoted largely to the eastern section. Circuits are being arranged now. Farmers likely to need help should write the director of college extension. Cement silos should be erected before hot weather, thus avoiding the tendency to check. When writing, do not fail to give the size and type of silo intended. To help as many farmers as possible, this work must begin early in April.

KEEP THE MOISTURE, NOW.

Cultivating the Surface Soil Until Planting Time Will Conserve It.

The soils of Kansas contain more water now than they have at this time of the season for many years. Every farmer should see that it is kept there until the growing crop can use it. This moisture is more valuable to the plant than an equal amount of later rainfall, because it has already absorbed an abundance of plant food from the soil. Practically all the water that is now in the ground can be saved by keeping the surface soil loose or well tilled until planting time, says W. M. Jardine, professor of agronomy at the Kansas Agricultural College.

Cultivation should begin as soon as the land can be touched. This will prevent water escaping from the soil through evaporation. A two- to three-inch layer of tilled soil over the surface of a field forms a very effective lid to keep the water in the ground. The cultivator, the disk harrow, the spike-tooth harrow or any other implement the farmer may have which will loosen the top soil may be used and should be started as soon as the ground is dry enough to be worked.

If the ground was fall plowed, harrowing or possibly early disking will be best. If the ground is in the stubble and is to be planted with the lister, then it should be disked and harrowed. If the ground is loose and sandy and likely to blow, it will be best to shallow list early and gradually work the ground down with an ordinary drag harrow, when the crop can be surface planted or listed in, as the farmer deems best.

Some farmers are asking if it would be wise to roll or harrow their wheat ground this spring. It certainly would, especially if a crust has formed or if the ground has cracked or heaved or is very loose. Rolling or harrowing when the ground is not wet will not do any harm, and, therefore, ten chances to one it will do a great deal of good. A corrugated roller is to be preferred to a smooth roller. The spikes of the harrow should be tilted backwards a little to avoid pulling up more plants than is advisable. Do not be afraid to harrow the ground thoroughly.

GOSS GOES TO SWITZERLAND.

Isn't it Wonderful the Good Times That Some Persons Have?

Dr. L. W. Goss, of the veterinary department, on leave of absence in Germany, has written THE KANSAS INDUSTRIALIST a letter. Here it is: We are about to leave Berlin on our way to Switzerland and Italy, after which we will return to Munich to remain during the summer semester.

Will you please have THE KANSAS INDUSTRIALIST sent to me at Munich, general delivery? We have enjoyed it so much. Just like seeing an old friend every time it comes. All work stops until it is read, inclusive of advertisements. (?) L. W. GOSS, Charlottenburg, Germany, February 29.

Brains.

An automatic machine may manufacture goods, but it calls for a man with brains to make sales.—*Backbone Monthly.*

GET YOUR PORCH READY.

THE OUTDOOR SEASON WILL BE HERE IN A JIFFY.

This for the Furniture: Willow Chairs, Grass Rugs, a Tea Table, Pillows, a Home-Made Swing, and Some Hanging Baskets.

No place is more inviting on a hot, summer day—or any other day, for that matter—than a really home-like porch. An outdoor living room, aside from the standpoint of health, is the greatest source of comfort and pleasure to all the members of the family.

Substantial furnishings are necessary to stand the exposure to the weather as well as to add to the home-like appearance of the porch. Rustic furniture is best for a house built in rustic style, in the mountains, by the seaside, or in the country. For other houses, willow furniture usually harmonizes best with the general atmosphere of out-of-doors. Easy chairs, swinging couches or hammocks, sofas, built-in seats, and a tea table make possible no end of good times in an outdoor living room.

THEY LEARN IT HERE.

In their study of houses and house furnishings, girls in the domestic science school at the Kansas Agricultural College do not forget the porches. No student in this school, when planning a model house, as she is taught to do, would think of leaving out the living porch or even a sleeping porch. Much attention is given these very essential parts.

Indian rugs and grass rugs will stand the wear better, perhaps, than any other kind, and give pleasing touches of color to the porch. A plentiful supply of porch pillows and mats also is desirable. Burlap and canvas are good materials for pillows, and can easily be stenciled in attractive designs or left plain. Linen covers for chairs are a practicable addition to the furnishings, as furniture that is out in all kinds of weather is likely to soil light-colored clothing.

Vines, hanging baskets of ferns, vases of flowers, and porch boxes containing hardy plants are always delightful on a porch and help to beautify it in a way that nothing else could. The cane or willow baskets are the best for a porch, and afford an opportunity for anyone interested in basket-making.

AND A FIREPLACE!

A reading table with books, writing materials, and a waste basket, and a fireplace will complete an outdoor living room even for the most fastidious. The fireplace permits sitting on the porch when the days are a bit chilly.

Awnings and Japanese blinds are desirable for summer, and it is an excellent plan to have the porch enclosed in glass in winter, to be used as a sun room. If the porch is large enough, two rooms—a dining room and living room—could be furnished, one at either end of the porch. It is best to use furniture belonging to the porch, as indoor furniture would not be so appropriate for outdoor rooms.

The ideal position for the living porch is opening on to the garden. Then there may be had all the privacy of indoor life and yet all the pleasures of the out-of-doors.

A Sad Journey for These.

Prof. L. H. Beall, N. A. Crawford and Raymond Taylor went to Jewell City, Wednesday, to judge a debate between the high schools of that place and Junction City for the championship of two congressional districts. Jewell City, Professor Beall said, before leaving, is on a branch of the Central branch.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS..... Editor-in-chief
PROF. C. J. DILLON..... Managing Editor
DR. J. D. WALTERS..... Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MARCH 30, 1912.

IN GLASS HOUSES.

When you set out to say something smart, to criticise someone or something, be certain you are right; then jump. The esteemed *Christian Science Monitor*, referring to the recent spelling bees in Kansas, originated by Prof. L. H. Beall of this college, prints an editorial. In this the writer uses a lot of words which he believes strange and fearful, even in Boston, long referred to as the seat of culture and beanology. In Kansas they are a matter of everyday conversation. He is, indeed, a poorly informed farmer who does not know that "zetetic" is not the way to spell it. This Back Bay satirist must be more careful. He must not give his dictionary so much absent treatment. It keeps him in error. His zetetic tendencies should be diverted to learning how to spell the big words he likes to use. It may not be amiss, here, to quote some of the interesting language used by the Boston editor, under the impression, doubtless, that it would make Kansas turn pale:

"When the Agricultural College hears of anything in the least degree out of the ordinary," says the *Christian Science Monitor's* editorial, "it immediately enters upon an investigation that mountains of difficulties cannot discourage. If there are any unexplored districts in the domain of linguistics, chrestomathy, philology, dialectics, glottology or *belles-lettres* it is because the Kansans have not quite got around to them.

"Kansas is particularly alert on the subject of unusual words, as well as in the matter of spelling, pronouncing and defining the usual ones correctly. Pleonasm does not get very far in the Sunflower state, and particularly guarded are people against the abuses incident to unnecessary prosthesis and kindred practises.

"In the average Kansas spelling bee there are, of course, the usual departures among the minority from established usage. There is, for instance, the seemingly unavoidable polyphonism, the drift toward the zeugma and the disposition toward balbucination, due in large part, perhaps, to the verticose movement of furniture so observable among those who get up to spell for the first time.

"Those who have attended spelling bees in Kansas or elsewhere must have remarked how frequently the stentor drops into a fritinant tone, but in Kansas the children are overcoming this, and it is only on rare occasions now that a word begins in G-flat and ends in a whistle. In fact, the Kansas juveniles have become so adept in orthography that they seem to need little more than to perstringe the printed page before they have acquired knowledge enough of its contents to stump the Kansas adult. No longer, as a consequence, is domestic conversation in Kansas given to nugacity; no longer are the children obfuscated by the conversation of their elders; rather are they to-day coadjuvants of those who are striving to rescue the mother tongue from the in-

fluence of those who would use it rather to obnubilate than to enlighten."

We do not believe the fritinant gentleman in Boston should be so verticose until he is certain both these words are in the big book. Kansas uses English of the best, but it finds it in its texts.

WHAT ABOUT ROADS?

A survey of the newspapers of the state, this week, indicates that in the eastern half, at least, the farmers are bestirring themselves in the interest of good roads. No more important work ever has been done in Kansas than that of the Agricultural College and the railroads, which have coöperated, recently, in the good roads work—the Atchison, Topeka & Santa Fé and the Missouri, Kansas & Texas. These roads carried lecturers from the college into 33 counties. In every one of these the highway engineer, Mr. Gearhart, and his co-workers, told exactly how much money had been collected in taxes for roads and bridges in other years, and how much would be collected in 1912. No other information, perhaps, could have held the farmers' attention so completely. Few, it was evident, had any conception of the amount that should be available for this purpose. It was a shock in many communities.

No intimation was made, anywhere, that any official had misused the county funds. The point emphasized was this: Money should be more carefully and intelligently expended. The people should get more than they do get. In some counties, allowing \$35 a mile to be a reasonable cost for grading, the funds available last year were sufficient to improve every mile of road for which the people were responsible. Every bridge and culvert could have been concrete. What became of it? It was dribbled away in useless, wasteful, worse than foolish work, by men who knew little more about road building than they knew about astronomy or paper-bag cookery.

The money wasn't stolen. It was just lost. Some of it went for sixty-foot roads, half graded from fence to fence; some of it went into makeshifts. That mighty little of the road money has been intelligently administered is shown by the fact that with 98,300 miles of highway in the state, only 180 miles—one hundred and eighty—has been improved with macadam, gravel, brick, oil, or clay. That isn't much of a record, is it?

Director Miller of the extension department has been careful, and so has Mr. Gearhart, to refrain from recommending any especial kind of road. It is not a matter of importance whether the roads be built macadam or brick. The thing right now is to get the people awake to the fact that the roads should be classified under the new law and that definite returns be shown for the money the tax collectors take in. With these facts driven in securely, the next step is to insist upon competent administration, free from politics.

You cannot get these public improvements if the first thought is to provide for the "good fellows" who need jobs. Road builders are needed. The ordinary section boss on a railroad would be the best possible kind of a man for a county to employ. He would make more road and have it straighter, in less time, than twenty pets or village barnacles.

THE MEANING OF MOISTURE.

Water is found in soils as gravity water, hygroscopic water, and capillary water. Gravity water is excess moisture between the soil grains, and it drains away when it has an opportunity. Hygroscopic water is not removed from the soil under normal conditions, and consists of an invisible film of moisture around the soil grains. The dry dust on the roads in the summer contains about 10 per cent of moisture. Capillary water is the moisture which clings to soil grains which will move in response to capillary action. From an agricultural viewpoint this is the most important form of water.

If the land contains too much water

A Golden Text.

Boast not thyself of to-morrow; for thou knowest not what a day may bring forth. Let another man praise thee, and not thine own mouth; a stranger and not thine own lips.—*Proverbs 27: 1, 2.*

a part of the year, tiles should be used to remove the surplus moisture. Many of the fields in eastern Kansas need draining, and they will not produce profitable crops until they are drained.

Capillary water, however, is the most important form of ground water to the growing plant, for it will go in any direction from the damp to the dryer soils. Much of the tillage is to conserve the supply of this kind of moisture, and to aid in bringing it up from the subsoil. Did you ever place a corner of a cube of loaf sugar in a cup of coffee and watch the liquid mount up in the sugar? The coffee was responding to the influence of capillary attraction, just as the water does in the soil.

In order for the water to come readily up in the soil, the soil grains must lie close together. Wheat cannot do well in the fall on freshly plowed land, for the water cannot get up in the soil rapidly enough. The soil grains are

conditions. The Italian colonies on the Pacific coast, engaged for the most part in fruit growing, seem to offer a field where a man trained in horticulture could be of service. It is likely that he will enter on a course of study in that subject, expecting to go west later and connect himself with some Italian fruitgrowers' association. So employed, his position in life would be more secure, and more certain to bring him, continually, pleasure and profit. D. H. R.

THE SCIENTIFIC DIGEST.

Among the many joys that have fallen, recently, to the share of this department of the agricultural college is a copy of J. L. Morgan's *Scientific Digest*, published in Kansas City. To the person interested in the big things being done in this busy world, but too occupied to read forty papers, this contribution to magazine literature is distinctly welcome. It is the *Literary Digest* of science, the *Review of Reviews* in the engineering world. Moreover, it is an excellently prepared publication, interestingly arranged, and well illustrated.

Mr. Morgan always has been keenly interested in machinery, particularly motor cars, golf up to the nineteenth hole, aeroplanes, duck-hunting, Excelsior Springs, and such things. He is the gentleman who first suggested—after he had run down thirteen innocent bystanders—that all motor cars

Victor Hugo's Easter Hope.

I feel in myself the future life. I am like a forest once cut down; the new shoots are stronger and livelier than ever. I am rising, I know, toward the sky. The sunshine is on my head. The earth gives me its generous sap, but heaven lights me with reflection of unknown worlds.

You say the soul is nothing but the resultant of the bodily powers. Why, then, is my soul more luminous when my bodily powers begin to fail? Winter is on my head, but eternal spring is in my heart. There I breathe at this hour the fragrance of the lilacs, the violets and the roses as at twenty years.

When I go down to the grave I can say, like so many others, "I have finished my day's work." But I cannot say, "I have finished my life." My day's work will begin the next morning. The tomb is not a blind alley; it is a thoroughfare. It closes on the twilight; it opens with the dawn.

—Victor Hugo.

not close together. The principle of a soil mulch is to keep the soil grains so far apart that they will not bring the water up to the air where it will be evaporated. Manage your soil so there will be plenty of capillary water in the ground.

An abundance of water is necessary for plants, not only on account of their moisture requirements, but also because all food is taken into the plant in solution. The food cannot readily be supplied to the plants unless there is enough water. So provide the water. F. B. N.

THE ALIEN.

He is an Italian, but not a "dago." He has been a student at the college since the beginning of the fall term and has done good work all the time. He is classed as a sub-freshman, but is older than most of his classmates. An energetic way of going at things, a lively interest in all the work set for him to do, wins for him, from instructors, attention and consideration which other less wide-awake students often fail to receive.

A conversation with him at the end of the winter term brought out the fact, however, that this Italian feels himself an outsider. In English as good or better than that used by most young Americans, he told, but in no complaining way, of the treatment which he is forced to undergo. Persons he meets, or with whom he associates, show by their actions that they do not forget his foreign birth. They are suspicious, he says, and seem unwilling to allow him any real share in their everyday life. Especially is this true among the women and girls.

As a consequence the man is discontented, but not discouraged. He sees the necessity of his coming to live, finally, among people of his own race whom he, by reason of his training, may be able to help to better

should be equipped with cowcatchers, or fenders like those on street cars. But after the speed limit in Kansas City was reduced to forty miles an hour Mr. Morgan had no use for the fenders or the car. Only one thing remained for him to do: Publish a paper or go to the legislature. Out of deference to a family history thus far untarnished, he chose the former. The *Scientific Digest* was the result. Long may it digest.

THE NEXT SYMPHONY.

One of the surest proofs of culture, or the desire to be cultured, is a love of good music. When the Minneapolis Symphony Orchestra comes again to the college, April 19, every student and every member of the instructional staff should hear it play. If you don't like music, which is scarcely possible, go anyway and make people think you know a good thing when you see or hear it. Let the word go out, as a matter of proper publicity, that every boy and girl in the college seized the chance to hear a fine program. The student rate arranged by Professor Beall puts this concert within the reach of everyone.

For Your Cookbook.

Haddock Rarebit.—Cut the haddock into slices an inch thick. Free from bone and skin. Lay in a greased baking dish and season with salt and pepper. Grate sufficient cheese to cover, and season with salt, red pepper, and mustard. Make a smooth paste with cream and beaten egg. Put into a hot oven and cook until the cheese melts and browns and the fish is firm. Take up carefully on a platter, and pour one teaspoonful of sherry over each slice.

Drag the roads early and drag them right.

A Rainy Day.

MRS. M. P. A. CROZIER.

There is no sun, and all day long
The dripping clouds hang low and gray;
Banished is mirth and cheerful song
That make the country farm yard gay.
With shoulders shrugged, and head bent down,
Red-handed schoolboys front the storm;
No neighbor brings the mail from town,
The cattle hug the stacks to warm.
The muddy streams across the roads
Make deepening gutters in the clay;
The horses strain to move their loads
Along the miry, bleak highway.
The naked trees weep dismal tears;
Around the sheds the east wind howls;
And where the thrifty wood pile cheers,
Huddle the draggled barnyard fowls.
But many a joke and olden tale
The farmer tells beside the stove;
And in the pause-compelling gale
Grows richer in the shrine of love.
—*Farm Journal.*

SUNFLOWERS.

Another touch of winter'll make the whole world sore.

The *Appeal to Reason* will continue to appeal, at least for a while. The jury is still out.

A pawnbroker in Kansas City lost \$700, last week. This is nearly a year's interest on \$36.50.

Planted your tame oats yet? Tested your seed corn? Dragged your roads? Figured on your vacation?

One of the papers calls it a "Suspicious Congress." Move to strike out the adjective, and insert "Suspected."

Twelve women in Topeka smoke, the papers say. Next thing Topeka will have a fancy dress ball and a monkey dinner.

If women had to do the road work in Kansas it's likely they'd have to do it by hand, as they do all the other hard work.

Gardener.—Not a word has reached us, yet, from Gentle Annie. Our old friend, Robin, also is a bit late with his harbinger act.

Not much about Amundsen in the papers now. Doctor Cook, after all, either had a scoop on the Pole business, or he "crabbed" the story.

"One of the gang gets away clean," says the *Beacon*, referring to the Allens. This belongs with "the man who came clean from St. Louis."

The Rush Center *News* complains because it was twelve days without mail. Doubtless most of the real worry was at the other end, however.

For the Bombproof Safe.—Flattering unctious; Republican cohorts; high in the councils of the party; the short and ugly; Charles D. Hilles said: high-handed proceedings.

Within ten days the telegraph has reported two remarkable incidents at Chickasha: One farmer died of sunstroke and another froze to death. We await news of the correspondent's condition.

Oscar.—Yes; Miss Crosby did tell her age, and added that she didn't care who knew it. She is 92. She owes her youthfulness, she says, to the fact that she never used a Lillian Russell recipe.

A minister from Los Angeles is preaching in Kansas towns on "The Bible Not Infallible." One-half the energy he wastes might bring results if given to lectures on "How, When, and Why to Drag a Road."

The road commissioners of a certain county in eastern Kansas went to Kansas City to buy a traction engine to haul road graders. Some one sold them a motor truck. If the snow continues they intend to get a limousine top for it. Your average farmer just must ride.

Frank Jarrell, of the Santa Fé, agreed to introduce a speaker, a few days ago, on the "Good Roads Special." He did it, but the speaker disappeared while Jarrell was describing him as "the man who." As the car was filled with high school girls—it was at Garnett—the railroad man went right on talking, and for thirty minutes entertained the crowd.

The Kansas City papers, and Chief Griffin, evidently have overlooked the fact that every man who lost money in Mabray's races and fights was a potential crook. Every one of them expected—and was eager—to win a lot of money on a contest which he knew was "Fixed." They were a cheap lot of sports. Chief Griffin might well enlarge the scope of his "out of town" order.

TRY A LITTLE OKRA, TOO.

AS A SALAD AND FOR FLAVORING MEATS IT IS EXCELLENT.

Only a Few Rows on One Side of the Garden Are Necessary—Plant Now and Put on Plenty of Fertilizer.

Many vegetables have a higher food value than okra, but it is a very desirable addition to the garden. It is used mostly for flavoring meats, but when boiled or made into salad it makes a very desirable dish. The taste generally must be acquired, like that of olives.

The three principal varieties of okra are the Tall Green, the Dwarf Green, and the Lady Finger. The vegetable grows on stalks, from 20 inches to 3½ feet, in the form of slender, pointed pods. These pods are from three to five inches long in the short varieties, and from seven to eleven inches in the long varieties.

A rich, mellow loam, plowed deeply and well worked over, makes the best seed bed for okra. After the plant gets a start it grows rapidly, and a large amount of nitrogenous matter is required. Quick acting fertilizers can be used with advantage if well mixed with the soil. Okra is a tropical annual of the same order as cotton. Only one crop a year can be grown in Kansas.

PLANT IT EARLY.

Okra should be planted as early as possible in the spring after all danger of frost is passed—about the time of most other garden seeds. The seeds should be placed in rows 3½ feet apart for Dwarf okra and about a foot farther apart for larger growing types. The seeds may be scattered in drills or loosely in hills, as corn, and covered at a depth of one or two inches. Any good seed drill may be used. When planted in hills, the hills should be separated three or four inches to allow space for development of stems. If the soil is warm the seeds will germinate in a few days. Heavy rainfall in the meantime necessitates cultivating between the rows, breaking the crust over the seed.

As soon as the pods begin to appear they should be gathered every day. Evening is the best time. The flower opens in the night or early morning, and fades after a few hours. The pollen must be transferred during this time. The pod thus formed usually will be ready to pick late the following day. The pods should be gathered irrespective of size while still soft, and before the seeds are half grown.

A FEW OKRA RECIPES.

No copper, brass or iron cooking utensils should be used in preparing okra, as the metal will be absorbed and the pods discolored, and even made poisonous. Recipes for making okra salad and okra soup are:

OKRA SALAD.

Boil young okra pods whole. When cold dress with vinegar; salt and pepper. Use plain French dressing and serve very cold. This is an excellent warm weather dish.

OKRA SOUP.

2 pounds beef without fat or bone
2 cups okra, chopped fine
¼ pound butter
4 quarts cold water
1 onion, sliced and chopped
Salt and pepper
Cut beef into small pieces and season with salt and pepper. Fry it in the soup kettle without onion and butter until very brown. Then add cold water and let simmer for 1½ hours. Add okra and let simmer gently for three or four hours longer.

ALUMNI NOTES.

An address by D. W. Working, '88, on "Farm Management and the Grange," has been published in pamphlet form by the Colorado State Grange. Mr. Working is now an expert in the office of farm management of the United States Department of Agriculture. He is also a past lecturer and past master of the Colorado Grange. The little book contains only 12 pages, but much of value is to be found. One paragraph has this:

"You and your children and your neighbors and their children need to be surrounded with the influences that make for clean living and for high en-

joyment and for effectiveness in the life and work of the country. Part of the problem of the country is to understand the relations of soil and climate and crops and farming methods, so that the business of the farmer can be made more profitable; so that wastes may be prevented; so that labor may be more effective; so that market conditions may be taken advantage of for the benefit of the farmer; so that the whole business of the farm may be made more agreeable and more effective. It is not enough that you should raise large crops. You should raise large crops—larger than you have been raising—but you should raise such crops in such succession or rotation that the raising of every one of them shall be a preparation for the raising of the next one more profitably."

WILLISTON, OF '72, RETURNS.

In Assembly the Alumnus, Now a Chicago Prof., Tells of Early Days.

One-third of the class that was graduated from the Kansas Agricultural College in 1872 spoke in chapel last Wednesday morning. He was Dr. S. W. Williston, and it was exactly 40 years ago, to a day, that the class of '72 "commenced" life as college graduates. He is now professor of paleontology at the University of Chicago.

KEEP TAB ON THE COWS.

THE "BOARDERS" CAN BE DETECTED BY USING A SYSTEM.

A Chart and Pair of Scales by the Milk Room Door Make a Complete Outfit—Test the Milk Occasionally.

A majority of the farmers in Kansas do not know whether they are making a profit from each of their milk cows. The average cow must produce at least \$40 worth of milk a year to pay for her food and care, according to O. E. Reed, professor of dairying at the Kansas Agricultural College. Some persons do not know how to find out whether every cow is profitable; others, that do know, say it is too much trouble to keep the records and does not pay for the time taken. Those who have tested every cow and disposed of the unprofitable ones, replacing them with profitable ones, insist that it does pay and that it is very little trouble.

HOW TO DO IT.

The best way to test a cow is to keep a record of the amount of milk given every day. This can easily be done by ruling a sheet of paper for the records or sending to the dairy department of the Kansas Agricultural

Some Good Roads Proverbs

Kansas Agricultural College
Stands for Good Roads

If you want to know if good roads are a good thing, ask a horse.

Good roads promote prosperity; bad roads provoke profanity.

If the roads around a town are bad, it might as well be on an island.

In considering roads, remember that there are few towns that look so good to the farmer that he will kill a horse to get there.

Ill fares the town, to hastening ills a prey, where teams turn out to go some better way.

Was it in your township that the ignoramus pulled the sod into the middle of the road?

Good roads will increase health, happiness, education, religion, and morality.

Good roads will decrease profanity, discouragement, back taxes, sheriff sales, sour grapes, and grouches.

Improved roads are a good trademark for any community.

Good roads invoke a blessing upon any people who build them.

Good roads will keep people in the country, and will bring the city folk out for fresh air.

Did you ever hear this?: "The roads were so bad that the only way he could get to town was by telephone."

Things were different then, said Doctor Williston. There were no cap and gown processions, from one building to another, for Anderson Hall was then "the college." None of the frills of the present commencement days marked the graduation of '72. But they had a program, with orations by the members of the class, and music. Those who won the coveted honor of a diploma with that class were: Theophania M. (Haines) Huntington, who died in 1880, Col. Albert Todd, and Doctor Williston.

"Come Where My Love Lies Dreaming" was a number on the program. Think of it, 40 years ago! And yet no one will dissent from this statement. They really did sing it.

Doctor Williston, at that time just plain Samuel Williston, about to receive an A. M., set forth, in his oration, some reasons against the teaching of Latin and Greek as it was taught at that time. And yet the teaching of these subjects was mighty good discipline, Doctor Williston says.

The speaker had a lot of interesting things to tell. The chemical equipment at that time, if he remembered correctly, consisted of half a dozen test tubes in fairly good condition. The old machine for generating static electricity was the wonder of students in physics.

Don't wear an evening scarf for knockabout purposes. A handsome garment worn out of its proper place always looks cheap and in bad taste.

College for a milk sheet. Hang this sheet on the wall in the barn, near the cows. Get a pair of spring balance scales and suspend them from the ceiling near by. Fasten a pencil to a string and attach it to the wall near the milk sheet, and the outfit is complete.

Keep a complete record of every cow from the time she freshens until dry. Figure up the total amount of milk given during the period and calculate the income, figuring the milk sold at current market prices. When milk is separated and the cream sold on the butter-fat basis, a record of the butter fat produced by every cow must be kept. To do this the milk must be tested once a month by the Babcock test. If there is no means of testing on the farm, have it tested at the cream station. When butter is made from the cream, the amount of butter fat produced by every cow must be found, and the amount of butter figured from that. One pound of butter fat will make about 1.1 pounds of butter.

AN ACCURATE METHOD.

Nearly all of the best herds in Kansas have been improved and put on their present paying basis by the foregoing method. It is very accurate, and the unprofitable cows in the herd can soon be found. Some may think all that is necessary is to keep a record of the number of pounds of butter sold every week, and divide the total by the number of cows to get the production, but this would not tell which individual is profitable. Some cows

may give enough milk to make up for others that are unprofitable.

WHAT! JOKING THE FARMERS?

Professor Beall Says That's One of the Things That Need Changing.

"A Square Deal for the Farmer in Literature" was the subject on which Professor Beall, of the department of English literature, spoke in student assembly March 26. Some of the professor's statements were rather startling, but he backed them up with statistics and other data in a decidedly convincing way.

Professor Beall declared the farmer had never had a square deal in literature; that his interests have been neglected out of all proportion to his importance, and that he had been misrepresented and caricatured. Professor Beall expressed the belief that many of the false impressions held by city folk regarding rural classes, and much of the discontent of those classes themselves, especially among the young people, might be traced to the incessant belittling of the farmer and the farmer's profession.

Few poets of merit, Professor Beall said, have seriously regarded the farmer and his life as material for their work. The half-dozen good poets since Goldsmith who have dealt seriously with the farmer have regarded him, in some cases, as a mere adjunct of rural nature, while others have portrayed him at rest rather than at his work. Much otherwise acceptable literature of rural life, Professor Beall said, unfortunately presents a discouraging picture of that life.

In an investigation of recent magazine fiction Professor Beall discovered that out of 325 short stories, published within the last year, in issues of sixteen widely read periodicals, only six had a real and direct bearing on rural life. He showed, also, that those writers of fiction who have dealt with rural life have, with a few exceptions, presented a sternly realistic and, on the whole, rather pessimistic view of it.

One of the conclusions of Professor Beall was that, on the whole, the farmer's son has no reason to be proud of his father and his father's calling as portrayed hitherto in literature; another was that a more intelligent and sympathetic dealing with things rural is bound to come, and that it will come when those who understand and sympathize with rural life acquire the ability, the leisure, and the desire to present it attractively.

SOME HELPFUL HINTS.

Here's a Way to Revive Aged Doughnuts, Rolls, or Buns.

When it is desired to freshen doughnuts, rolls or buns of any kind, or serve them hot, place them in the oven in a paper bag. Allow them to heat gradually and when hot they will be crisp and fresh.

Every housekeeper should see to it that each member of her family knows where to find strips of clean, thin linen or muslin for bandages in cases of cuts, burns, bruises and the like, and each child should be taught to apply some simple antiseptic to the wound, such as carbolized vaseline or turpentine.

A western Kansas man says he has cured some very valuable hens of cholera by giving them a piece of copperas the size of a pea, following this in half an hour by 1 tablespoon of castor oil.

The truly educated man is the one who is master of himself under all circumstances. That means if the coffee at the boarding house resembles weak tea, if the biscuits are hard as bullets and the steak is tough as rubber, the educated person will keep his thoughts to himself, remembering that the landlady has those goods to sell but that he is not obliged to purchase them. MARY E. SIMMONS,

Extension Department.

Don't think that because collarless dresses and blouses are fashionable you can wear a low-cut dress on the street. There is a vast difference between "collarless" and "low-necked."

A LESSON IN PURE-BREDS

IT PAYS TO RAISE GOOD HORSES, A FARMER LEARNED.

Grade Stallions Were Cheaper to Use, But Weanling Pure-Bred Colts Sold for Twice as Much as Grade Two-Year-Olds.

Fifty-five dollars is good interest for the use of \$7 for a year. And when the feed of a colt for another year is saved, the proposition is all the more attractive.

A stock farmer living in the southeast part of the state has been rearing a number of colts every year, using the services of a grade stallion.

This horseman wasn't very enthusiastic about paying a larger fee for the service of a pure-bred stallion. He had been using grade and inferior sires with a fair degree of success. He saw no reason for changing.

In the season of 1910 he decided to try a good pure-bred stallion just once, to see if it was worth the difference in the service fees.

The second week in this month this stockman held a sale. The three-year-old colts, sired by a grade stallion, sold at an average of \$76. The two-year-old colts, the progeny of another grade sire, brought an average of \$46. The weanling colts, sired by a pure-bred stallion, sold at an average of \$101.

The service fee of the pure-bred stallion was \$15, that of the grade \$8, a difference of \$7. The feed eaten by the older colts was saved, and \$55 more was received for the weanlings than the two-year-olds, and \$25 more than the three-year-olds.

ANOTHER SYMPHONY CONCERT.

The Minneapolis Orchestra is to Play Here April 19-20.

The Minneapolis Symphony Orchestra is to give three concerts in Manhattan April 19 and 20. Prof. L. H. Beall of the department of English literature has signed the contracts with Manager Heighton. The concerts will be given, this year, in this order: Friday night, April 19, an artists' recital by several of the soloists traveling with the orchestra, and a matinee and a night concert Saturday, the twentieth. The numbers, in the order indicated, will cost fifty cents, one dollar, and one-fifty, but a course ticket, good for the three numbers, with reserved seat, will be sold for two dollars.

In return for the use of the college Auditorium, generously granted by the president, Manager Heighton has announced a reduced rate for students. The three concerts, which singly would cost three dollars, and which will cost the general public two dollars, will be given to bona fide students for one-fifty, the price of the Saturday night concert alone. These student tickets will not be transferable—as the other course tickets will be—and must be obtained from Professor Beall. He will have them on sale Monday, April 1. The names of those buying will be taken and holders of these tickets will be allowed to select their seats in advance of the general reservation, along with the general public who buy in advance, in the order in which they purchase tickets.

Those wishing seats on the west side of the house may indicate the fact when they purchase tickets; otherwise they will reserve their seats at the "Coop," and will sit on the east side. Seats will be reserved Monday, April 15.

Idea in Pressing.

When I wish to press either a silk or wool garment which cannot be sprinkled nor wrapped in a wet cloth I hang it in a damp cellar for a few hours, says a writer in the *Pictorial Review*. It will gather just enough dampness to press easily, and will look delightfully fresh again.

Don't forget to see that your blouse is properly fastened before leaving your mirror. The waist gaping open at the back not only looks careless, but may cause you some embarrassment.

PIGGY NEEDS A SHELTER.

EXPOSURE TO STORMS IS DANGEROUS TO YOUNG SWINE.

Sunshine, Fresh Air, and Dry Floors Essential in the Piggery—Sanitary Sheds May be Made for \$10 a Pen.

No animal on the farm requires better protection from exposure than the hog; none for which a good bed is more necessary; and none so much in need of sunshine as the little pig. One of the first requisites for success with hogs is a shelter where young pigs can be kept warm and well supplied with sunshine and fresh air. A little pig takes cold very easily and recovers slowly, if at all. To prevent taking cold he must be kept dry, warm, away from drafts, and be provided with fresh air. "You cannot over-emphasize these points," says T. R. H. Wright, assistant in animal husbandry at the Kansas Agricultural College.

Most good hog raisers try to have their spring pigs farrowed in March. Without good warm buildings this is impracticable. Breeders find it necessary to have their pigs come about this time in order to have them large enough for the fall demand.

MARCH THE BEST TIME.

Early pigs have several marked advantages. In the first place, there is usually more time to care for them in March. Early March pigs are large enough to begin to eat as soon as pasture is ready, and thus get the longest possible season, or nearly so. Not only can they make more use of pasture, but they can make more economical use of all feed, because they will be finished for market before cold weather sets in, when gains are more expensive.

If these pigs are crowded, many of them can be marketed by the last of October, and for the last ten years the Omaha price for October has averaged 58 cents higher than for December. Without a good house two litters a year can not be raised to advantage, because the spring pigs must be put off until so late that fall litters do not get well started before cold weather.

On the average, the hog house is the poorest building on the farm and the least adapted to the purpose for which it was intended. Many houses which cost enough to be good are thoroughly unfit for the purpose because the sun cannot shine into the pens. No piggery is fit for the purpose unless it admits direct sunshine onto the floor of every pen at the time the pigs are farrowed, furnishes plenty of fresh air, and provides for exercise in the open air. Dryness, sunshine, warmth, fresh air, freedom from drafts, and exercise are of primary importance in raising pigs. In putting up buildings the six requirements just mentioned must be kept constantly in mind; not one can be neglected.

WHAT TO SPEND.

In building the hog house, it is doubtful economy, under most conditions, to make the pens cost over \$30 apiece, while very good sheds are sometimes made for less than \$10 a pen. It is easy to get too much expense into any building, and the hog house is no exception. No one can afford, for any purpose, a building so expensive that interest and depreciation will eat up its usefulness.

Two or three general types of hog houses commend themselves to the careful hog man. Of the two styles of large houses, the larger has two rows of pens, an alley through the middle, and a jog in the roof for windows to light the north pens, while the smaller has but one row of pens, with an alley and a row of windows on the south side. More pens can be made in the double house for the same cost, and for that reason it is to be preferred. Less work is also required to care for the hogs than where a single row of pens is used.

Probably the cheapest house possible is a low building with a single row of pens and no alley, but such a house is much less convenient, especially in stormy weather. A large hog house should always stand east and west, facing the south, so that a

maximum amount of sunshine may be had in every pen.

POP CORN A GOOD SELLER.

A Small Patch on Every Farm Would be Profitable.

Pop corn ought to be grown on every farm. If there is too much other work to look after, let the children care for it. They will not only find it a pleasant task, but will make some money at the same time. Get them interested in the work of the farm by giving them something to do that will interest them—something they can call their own.

Pop corn can be grown on any well-drained, fertile soil that is suitable for field corn, say crop experts at the Kansas Agricultural College, but this soil must not be too fertile, as pop corn has a strong tendency to run to stalks. Selection of seed should be made the same as for field corn. Good White Rice pop corn grows from five to seven feet in height, and White Pearl from six to eight feet. Both are good sellers on the market.

The average production of these varieties is about sixty bushels of ears an acre. This can be sold on the local market for a dollar to two dollars a bushel. If grown in the rotation it should take the place of ordinary field corn, or may be grown in place of one of the "money" crops, such as potatoes. Do not plant it

Good Roads Motto:

Not more money, but more results, and better results, for the money we spend; less tin and more concrete.

next to field corn, as the pollen will be readily mixed. It ripens in about one hundred days, when it should be shocked in the field, allowing it to dry before husking. The great difficulty of keeping pop corn from one year to another on account of rats and mice is the reason this paying business has come into the hands of a few. But this should not be so great an objection to the growing of pop corn, for with the growing demand for it in the towns during the fall and winter, a ready market can be found as soon as it is harvested.

GIRDLED TREES CAN BE SAVED.

Grafting, Professor Dickens Says, Will Prevent Death From Rabbit Wounds.

Grafting will save girdled trees, says Albert Dickens, head of the horticultural department of the Kansas Agricultural College. If the rabbits have not eaten through the bark to the hard wood, the tree may be saved sometimes by putting melted wax over the injured part, and binding, so as to keep it from drying out.

But in case the rabbits have eaten through the bark and growing layer, the tree can be saved only by ring- or bridge-grafting. In this operation the edges of the girdle should be trimmed to the fresh, firm tissue, and the scions—in this case, layers of bark cut from a free of the same variety, or a different variety of the same genus—which are whittled wedge-shaped at each end, are inserted with the wedge-shaped ends under the bark of the tree. Then bandages are wrapped around the trunk so as to hold the free edges of the bark and the ends of the scions firmly, and melted wax poured over the graft. This work should be done in the spring when the trees are still dormant. Buds on the scion should be prevented from throwing out shoots. If the scions are placed close together, they will soon unite along their sides and make a continuous covering over the wound.

Dainty Croquettes.—Take some freshly mashed potatoes, well season it and fry it to a golden brown in hot fat, croquette shaped. Remove it carefully to a hot dish, then with a tablespoon make a deep depression in each one and fill it with highly seasoned minced chicken. Strew the grated yolks of hard-boiled eggs over the tops.

It's Time to Talk About

Contests for the Boys and Girls

The Program for 1912 is Ready

Nothing so attractive ever has been prepared. The small towns and communities have missed many fine chances for interesting, healthful and profitable work, in past years. THE STATE AGRICULTURAL COLLEGE hopes to change these conditions. It

Wants Every Girl in Kansas

To Enter the

Tomato-Growing Clubs

Flower Garden Contests

Butter-Making Contests

Family Garden Contests

Bread-Making Contests

Mending and Sewing

Jelly-Making Contests

One rod square is enough for 16, 20 or 25 plants.

Contests for Girls
IN TOMATO GROWING
Easy, Interesting Work

The girls must do the work after the first plowing.

SPECIAL ATTENTION

VEGETABLES

TO CANNING CONTESTS

FRUIT

THIS YEAR

Potato-Growing Contests

A plot about 50 x 50 is suggested for this work; variety planted to be left to contestants. Method used to be recorded for use, later. Prizes are recommended for the best ten potatoes, and for the largest yield. KANSAS NEEDS MORE POTATOES. GROW THEM.

The Boys' Corn-Growing Contest for 1912

AN ACRE-YIELD HONOR ROLL

A FIVE-ACRE-YIELD CONTEST

The Bankers and the Commercial Clubs of the state are helping. Several Banks already have agreed to send boys—one or two—to the State Farmers' Institute at the Agricultural College next December. This influence, with that of the local institutes, should spur the boys to big things, this summer.

Four Sets of Prizes!

The usual classes, a Special, and the Extra Inducements for Big Yields. You might get a trip to the State Institute, next December, when the Corn Show is on. Four days of corn and stock judging. Four days of helpful talks. Think it over, Boys.

The general contest will be limited to boys between ten and twenty-one; Class B, boys from ten to fifteen, and Class A, boys from fifteen to twenty-one. Boys who will be fifteen years old by July 1, 1912, may be admitted into Class A.

Can you produce 75 bushels an acre?

Can you produce 60 or 40 bushels?

Every active Kansas boy ought to win under one of these classifications.

Address, for further information,

Director of College Extension, Box G

Kansas State Agricultural College, or Your Institute Officers

A THERMODYNAMIC COMPARISON.

Professor Potter's Recent Paper Explains Several Interesting Scientific Facts.

A comparison of the thermodynamic prime movers for electric power plants was made recently by Prof. A. A. Potter of the Kansas State Agricultural College in a paper before the Kansas Society of Engineers. An internal combustion engine, he said, has a much higher thermal efficiency than either steam engines or turbines. Also, its best fuel economy is reached in comparatively small units, and is little affected by the size of the engine. To offset these advantages the internal combustion engine is more cost-

ly than the others, will stand no over-loads, and is not suitable for parallel operation of generators. Its greatest field is in the comparatively small engines for electric power plants of 500 or 1000 k. w.

Steam engines do not reach their maximum fuel consumption in sizes less than 500 horse power. They are better than internal combustion engines for large units unless the fuel cost is very high. The thermal efficiency is about equal in the large steam engine and the internal combustion engines. The steam engine has the added advantage of its prime cost being lower and its service being more reliable.

Steam turbines are not suitable for driving large, direct-current generators, because of their high speed. They are especially adapted to driving pumps, exciters, and other machinery that requires high speed. They have no advantage over reciprocating engines as a power plant unit in sizes less than 500 horse power. The field of the turbine is in operating large, alternating-current generators. The cost of turbines is less by the horse power than others. A plant of 3500 k. w. capacity recently installed a 1000 k. w. exhaust steam turbine which produced a saving of \$14,000 in one year.

It isn't the taxes, it's the spenders.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, April 6, 1912

Number 24

LOOK TO THE MILK, NOW.

DON'T LEAVE BOTTLES AND PANS WHERE CATS AND DOGS RUN.

Here Are Ways to Protect Yourself from Danger this Summer—Report Violations to D. S. Burch, Dairy Commissioner.

The Pure Food Law of Kansas requires that sidewalk displays of fruit and vegetables, edible in a raw condition, be at least eighteen inches above the level of the ground. How about the milk bottles and bowls and pans?

"Look at the average back porch in the early morning and note the empty milk bottle or bowl, set there the night before and still waiting for the arrival of the milkman. They are not elevated," says D. S. Burch, state dairy commissioner at the Kansas Agricultural College. "And if they had been carelessly washed, the passing cat or stray dog may have been tempted to complete the cleaning process by licking the inside of the bowl or neck of the milk bottle. The dust from the street and the soot from neighbors' chimneys have found a way into the receptacle which, later, will be filled with milk."

HOME RESPONSIBILITY.

"The law does not permit the inspection of the home pitcher, and the methods of caring for milk after the milkman has delivered his product. The purveyor of milk and cream is not above suspicion in his methods. He is watched, but he is not responsible for the contamination introduced into milk from the time it leaves his wagon until it enters the human system. During this period the housewife, or her servants, are the masters of its destiny. In other words, it may be kept pure and sweet or it may become a death-dealing fluid. The housewife has a responsibility to herself and family."

"With the approach of warm weather, conducive to the development of germs and the more rapid souring of milk, the following directions are suggested for the proper care of milk between the hours of its delivery and its consumption:

HAVE IT COLD.

"Insist on having bottled milk delivered, cold, in tightly capped and clean bottles."

"Provide a shelf or other elevation at least two feet above the ground or porch-level on which the empty and the full bottles may be placed."

"Keep milk covered at all times, and in a cool place."

"Watch for sediment, or dark settlements, in the bottom of the bottle."

"During the fly season, place milk and cream for table use in a syrup pitcher with a spring cover instead of using the ordinary open creamer."

"After milk has stood for twelve hours, measure the depth of the cream line. If, in the regular style of bottle, the line is less than three inches in depth for a quart, or two inches for a pint, the richness of the milk probably is below standard, and the fact should be reported to the state dairy commissioner, at Manhattan."

W. J. JONES WAS HOMESICK.

Returning Spring Made Him Long for the Fields and the Planting Time.

As Jones came out of the library he remarked to Brown that it was a fine day. Brown agreed, and then added, "A day like this makes me homesick."

This answer to his comment on weather that was really fine—it was one of those spring days that came just after the snow disappeared—left Jones wondering. But presently he found that he, too, was wishing for home, which meant for him, as it must have meant for Brown, a Kansas farm. Since the warmer days had come he had been restless, discontent-

ed, without knowing what was wrong. Brown had cleared the mystery, and Jones wanted to be at home, out in the field planting corn and "pounding the old mules on the back."

It isn't quite spring you know, spring that stirs you body and soul, unless you can be out-of-doors where you can smell the fresh earth and the rotting corn stalks; out away from men's noises, where you can hear the racket of the flicker on a post at the edge of the field, or the whirr of the whippoorwill's wings as it swoops down a quarter of a mile through the sky; out beyond the barn and the gates and the fences, where your thoughts have room to move and can travel as wide as the wind that brings the spring-time haze. Raking the lawn and planting fifty-foot rows of peas in a garden doesn't mean spring to a man who has grown up on a farm.

TENT CATERPILLARS AGAIN.

Southern and Southeastern Kansas May Expect the Pests in Warm Weather.

Look out, once more, for the forest tent caterpillar in southeastern and southern Kansas. They're coming back. The egg masses now coming to the agricultural college show that from 50 to 70 per cent of the eggs contain tiny living worms ready to hatch with the advent of mild weather. Here is the best possible way to kill them.

The egg masses laid in June and July by last summer's brood are found as ring-like bands about the smaller twigs of fruit, forest and shade trees. The only other egg masses which resemble these are those deposited by the apple tree tent caterpillar, but they may be distinguished by the fact that the egg rings of these creatures have abrupt edges, while those of the apple tree tent caterpillar form a gentle incline from the level of the egg masses to the twig on which they are placed.

It is hardly practicable to try to destroy worms that hatch and feed in the forest, but those that start on fruit and shade trees should be killed by pruning off the egg masses within reach before the caterpillars hatch and by spraying the foliage of infested trees with lead arsenate. Just as soon as the foliage emerges sufficiently for the worms to feed upon it, the infested trees should be thoroughly sprayed with arsenate of lead mixture made up at the rate of from three to five pounds to fifty gallons of water.

When these caterpillars that have grown undisturbed on neighboring plantings begin to migrate, the trunks of protected trees should have a thick strip of cotton batting tied about each and that part of the batting above the string turned down and allowed to hang loosely. A broad, thick band of tree tanglefoot spread on tough paper and fastened tightly about the trunk of the trees will serve the same purpose. When the invasion becomes so serious that the worms collect on the sides of buildings, trunks of trees, and fence posts, they should be destroyed by crushing or by burning with a gasoline torch.

Later in the season, between the time the caterpillars disappear and the moths emerge, the numbers of the pest can be greatly reduced by systematic collection and destruction of the creamy cocoons.

To the Zoologists' Meeting.

Dr. J. W. Scott, of the department of entomology and zoology, left last week to attend the meeting of the American Society of Zoology at Urbana, Ill., April 4, 5, and 6. The meeting of this society will bring together prominent zoologists of the universities and colleges of the Mississippi valley. Doctor Scott will present a paper.

LAWNS: HOW AND WHEN.

M. F. AHEARN, LAWN-BUILDER, TELLS THE DETAILS OF MAKING ONE.

In the First Place, the Soil Must be Rich—Then Plow Deep, Disk, Harrow and Rake It—About Shrubs.

Here are a few words about lawn making. They are not written here exclusively for persons living in cities and towns. They are for farmers, and particularly for the small towns. There is no law against a farmer having an attractive front yard. The ground he wastes around his home would cost thousands of dollars in most American cities. Michael F. Ahearn, assistant horticulturist at the Kansas Agricultural College, a lawn-maker if ever there was one, is talking:

"Many lawns are spoiled," said Mr. Ahearn, "by carelessness or ignorance in placing the house. You find one house sitting back 40 feet and another built on the property line. If owners would meet, draw up a plan and agree on something before beginning work, every community would be benefited."

SHRUBS AND TREES.

"This applies, also, to planting shrubs and hedges and trees. For all these things are the trimming of the lawn. Too many property owners spend all their money on the house and forget the lawn and the other surroundings. The lawn should be planned before the house is decided upon, and before you buy the land you should know something about it. If you are buying a ready-made house, just finished, you should know what is under the recently laid sod. The yard may be filled underneath with lime and stone and plaster and other junk. This is a trick often discovered, and always resulting in disappointment for the man who would like to have a lawn."

"First, you must have rich soil. Any land that will grow corn will grow grass. One foot of soil will grow grass, but two feet is better. Barnyard manure makes the best fertilizer, but I should add, also, plant food. If you have a sandy soil, the plant food will hold it together and keep the moisture. Commercial fertilizers are all right. Nitrate of soda put on before a rain is all right. Bone meal and wood ashes are good, but the land may need lime. If you find sorrel growing there, it needs acid."

MUST BE DRAINED.

"Wet, heavy soil must be underdrained. Plow deeply, disk, harrow and rake it. The soil must be fine. Some of the best lawns, around the most costly homes, have been made in just this way. Do not imagine that because your yard is small it cannot be plowed. This is exactly what it needs, unless you have the time or the disposition to spade it, inch by inch, carefully. Sowing the seed with a drill will give the best results. If you have a large lawn—that is, an acre—and desire to sow broadcast, three or four bushels sown both ways and rolled will be required. By sowing in drills is meant using the drill attachment to the ordinary wheel hoe. Fall sowing is the best. The grass gets a good start before the weeds begin."

"Cut your grass when it is three inches high, and keep it about two inches high. The cutting should be about two weeks apart and should be continued until September 1, anyway. Let the cut grass remain on the lawn. When it becomes a burden, rake it off, but do not do it until you have to."

"Water your land thoroughly. You might as well throw the water over the roof as to sprinkle the grass. This spray brings up the roots seeking moisture and they dry out and die. Soak the ground thoroughly for 30 minutes to an hour."

"Kentucky Blue grass leads all mixtures. In some parts of Kansas Bermuda grass will do, but it starts late and frost kills it, and bare spots are the result."

BEGIN ON THE DANDELIONS.

But Do Be Careful in Digging or They'll Spread Rapidly.

When you want a mess of dandelion greens this spring, don't go to the front lawn for them unless you know how to dig them, because each plant that is improperly dug will send up from one to six new plants. In a short time the whole lawn will become infested.

Dandelions are very likely to ruin the sod unless carefully dug out. New plants grow rapidly from the small side roots which are very often left in the ground in digging up the plant. A plant cut off two inches below the surface, which is commonly done in digging, usually sends up two or more crowns.

"The two most satisfactory methods for ridding the lawn of dandelions," says M. F. Ahearn, assistant in horticulture at the Kansas Agricultural College, "are plowing up the lawn and re-seeding or sodding over, if the dandelions are very numerous, and by carefully digging up the plants with knives or trowels if there are only a few in the lawn."

"An experiment in treating the roots of the dandelion with gasoline was tried last summer at the college. A few of the plants were killed, but others lived with traces of the gasoline still on their roots. Spraying also has been proved unsatisfactory. Where that test was carried out with a solution of sulphur and iron, only a few plants were killed and all the grass that was touched by the spray turned black."

DOWN WITH THE WEEDS!

They Are the Worst Enemy of Lawns, Ahearn Says.

"Weeds," said M. F. Ahearn, landscape gardener at the agricultural college, the other day, "are the chief offenders in a lawn. Crab grass, sorrel, dandelions, dock, and broad- and narrow-leaf plantain are the worst pests. I fear the crab grass worse than I fear the dandelions. The only way to get a dandelion out is to get the roots. You may cut a dandelion every morning right after you shave and, like your whiskers, it will grow again before night. Sprayers, even, have succeeded only in killing the tops. Nature's weapons are the best, and every man who desires a clean lawn in this respect should spend at least as much time on his knees as he does in church. One dandelion has been known to have 10 thousand seeds."

"Don't buy every kind and any kind of shrubs advertised. Keep the front of the lawn clear of such things; plant in the corners, at the sides, and at the back. Do not put a flower bed in a small lawn. So many persons do this, and plant annuals that are dead about the time the rest of the world is blooming. It is a fine scheme to organize by blocks and have a captain to watch the lawns."

Woman Suffrage Lost.

The debate between the Junction City and Jewell City high schools, for the honor of representing the Fifth and Sixth Congressional districts in the semi-finals of the State High School Debating League, at Jewell City, March 28, was won by the Junction City team. The decision was two for the negative and one for the affirmative, and the grades given showed that the contest was very close. The question discussed was woman suffrage.

Every time we crush down a good impulse Satan rings up another fare.

SOY BEANS A GOOD FEED.

FOR THIS SOIL-MAKING CROP THERE ARE MANY USES.

Whether it is for Hay, Grain, Straw or Silage, it is Equally Valuable—Sow a Few Acres this Year.

Sow some soy beans this spring. These plants are some of the best annual legumes to grow for forage, and whether used as hay, grain, straw, or in ensilage, soy beans is a valuable crop to produce.

This crop is recommended especially by crop experts at the Kansas Agricultural College, because of the good it does to a worn-out soil. It furnishes a new supply of nitrogen in the soil and at the same time produces a useful crop. It is fairly drouth-resistant and withstands frost as well as cowpeas, although it is not quite so sure a crop as cowpeas.

A GOOD FEED.

This legume also contains a good deal of protein, making it a splendid feed for growing stock and breeding animals, when ground and properly mixed with some grain like corn. As hay, soy bean provender is almost identical with alfalfa, providing the hay is properly cured. It has been proved that soy beans is more valuable in producing fat on hogs and sheep and in helping cows produce milk than supplemental feeds based largely on cottonseed meal. When soy beans is combined with corn or kafir an excellent silage is obtained.

Soy beans grow best on a fairly fertile loam, or clay. They require about the same temperature and moisture as cowpeas. Deep plowing, followed by thorough disking and harrowing, is the preparatory work required for a proper crop. Plant in rows—seeds, two inches apart; rows, thirty-six inches. Shallow planting is considered best. One or two inches deep will give the seed good chance for early development. A bushel of good seed will plant nearly three acres. Cultivation is a simple process. Use only the flat cultivators. Harvest and thresh like cowpeas.

A ROTATION CROP.

As a crop in a short rotation, soy beans is quite desirable. They can be used to follow a small grain crop the same season very profitably. Soy beans make good pasturage for hogs in the early fall.

The important commercial varieties of soy beans are the Mammoth, Hollybrook, and Ito San. Be careful in your selection of soy beans. Some varieties cast their seed as they ripen, and if not harvested immediately a big loss follows. Don't select soy beans whose leaves shatter before seed is ripe.

ART FROM PRATT INSTITUTE.

An Exhibit Will be Shown by the Department of Drawing Next Week.

An exhibit of art work from Pratt Institute, Brooklyn, N. Y., has been received by the department of architecture and drawing. The exhibit will be on display in the rooms of the department next week. Pratt Institute is one of the best schools for domestic science and art. The work in home decoration taught there is noted all over the country.

The department announces another exhibit in connection with the one from Brooklyn. The collection of paintings bequeathed to the college recently by Miss Margaretha Horn, a German woman, will be shown at this time. Miss Horn was an alumnus of the college, class of 1893. An invitation to see these displays is extended to everybody.

Traveling on the rim after 40 is the result of not having looked to the tire before 40.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS Editor-in-chief
PROF. C. J. DILLON Managing Editor
DR. J. D. WALTERS Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, APRIL 6, 1912.

MISS CROSBY'S PHILOSOPHY.

Every man in the world who believes himself heavily laden; every woman who thinks she has more than her share of woe, ought to find some comfort in the interview given out by Miss Fanny Crosby, a few days ago, in her home at Bridgeport, Conn. Miss Crosby is 92 years old. She has been blind since childhood. Possibly she never went to a dance in her life. She may never have attended a fudge party, and for that matter may not even own a chafing dish. It is doubtful whether she ever wore velvet shoes, or thin silk stockings, or "cut a class." She may have missed the joys of picnics, of initiations, and of society nights. Her life never was bounded by "He says to me," and "I says to him." She never knew the bliss of a moonlight night, her ears, perhaps, never have longed for the footsteps of someone "coming home at night." The cost of living has added no woe to Miss Crosby's life. She has not had to figure out the salary limit into items of shoes and rubbers and overcoats and groceries, and goodness only knows what else. She has missed that fine experience.

But Miss Crosby has always been happy. She is happy to-day. The six thousand hymns and songs she has given the world are liberal proof that she has not wasted her days. Hear what she said, a day or two ago: "I am younger than ever. I never fret, never worry, never think disagreeable thoughts or find fault with anyone or anything. Life glides on like a little boat on a waveless stream, with beautiful flowers on each side. I have had sorrows, I have lost dear friends and felt depressed, but it is my firm belief that the Lord never afflicts his children; that is the work of the evil one.

"If in the whole world you can find a happier mortal than I am, bring him to me. I want to shake his hand."

If you have never heard of Miss Crosby it will help you some to know that she wrote two hymns you have often sung: "Rescue the Perishing," and "Jesus is Calling To-day." Now you know her. Many a time you have sat in a back seat, at church, gloomy, worrying over some burden, and one of these fine old songs has soothed the pain and sent you home feeling a lot better. Perhaps the knowledge that she was comforting thousands may have been a staff to Miss Crosby in the darkness that has always been hers.

Still, is it fair to say this? Was it always dark for her? Didn't she have, in her own peculiar system of philosophy, a "shield and buckler" and an anchor in the time of storm that made her strong and hopeful? Didn't this philosophy do a lot to carry her on to her ninety-second birthday anniversary with heart to declare herself as happy as any mortal in the whole, wide world? Anyway, whatever it was that cheered her, Miss Crosby's life should be a fine example for thousands who have eyes

to see the beauties of the universe with all its illimitable opportunities. How cheap and petty seem the little trials that grieve men, compared with the long, serviceable career of this blind woman!

THE MAN WHO WENT HOME.

It was settled before he left home, at the end of the Christmas holidays, that he would have to return when the winter term was over and help with the farm work. When he reached Manhattan he took his suit case to his room and started out to find somebody, anybody, whom he knew. There were twelve weeks ahead of him then, and he knew he should grudge every one of them that the sure succession of days would put behind him. The diversions which the town offered, the time he might spend in the college library, the "joshing" at the boarding club, and the squabbles and arguments with his roommate had never meant so much to him as they did the evening of that day, when the sound of the five-thirty whistle came down to him in his room. He realized then, as never before, how strongly the life up there, on the campus, had taken hold on him, how hard it would be to leave it all when the twelve weeks were done.

And then, next morning, he got back into the harness. His studies received what attention they had to have, but he was thinking to himself all the time, "I'll have to go home when spring comes, all right, but, by thunder, I'm going to have a good time now."

And then, when the term ended, he went home. Unwillingly, one can guess, but cheerfully, too, since he realized that the folks really did need him. Besides, his stopping then made it more likely that he could come back, next year, for all three terms. This prospect and the enforced absence, let those remember who have stayed for the spring term, mean, to the fellow who goes home, a stronger love for the college, and a clearer idea of just what things here are most worth while. Perhaps studies, class-room work, will look larger than they did when they had to share his attention with so many other things. Anyway, he'll have time to do a lot of thinking. And if, when he does get back, he sees everything in a truer light, and does better work, then surely, those who did not have to go home cannot be counted as the only fortunate ones.

THAT DAIRY COW TEST.

It became necessary, a few months ago, to change the attendants in waiting upon an aristocrat of the dairy herd, and a stranger was put in charge. Immediately the cow became irritable, nervous, unsociable. She wouldn't speak to the new hand. Moreover, as further proof of her resentment, she caused a decrease in the amount of milk supplied through the usual channel. It was reduced from ten to twenty pounds a day. All the pure-breds in the yard were discussing it. The situation continued unchanged, too, until the regular attendant returned. The cow appeared overjoyed; the milk flow resumed its generous proportions; peace reigned once more within the dairy barn.

But that isn't the point. The point is just this: The story of the cow's displeasure went east, and when a story goes east one may as well say "Howdy, and Good-bye." The next time it was seen in the West it was scarcely recognizable. It related how a test had been made at the Kansas Agricultural College in which a cow first had been kindly treated, with the most remarkably large milk returns as a reward, and then had been beaten with clubs; the attendants had yelled at her and "sicked" the dog on her and thrown cans at her, with the result that "she fell off in her milk"—the quotation is literal—until she scarcely gave any.

That is what happened to a good story when it went east of the Missouri river. It will be interesting, too, to know that that staid organ of conservative Rooseveltism, the Outlook, printed it with an editorial comment as being a very wonderful demonstra-

A Golden Text.

A good name is rather to be chosen than great riches, and loving favor rather than silver and gold. The rich and the poor meet together, the Lord is the maker of them all.
—Proverbs 22: 1, 2.

tion. The fact is that no sane, thoughtful dairyman would subject any cow to such silly treatment. It didn't happen, in Kansas or anywhere.

ROADS AND THE FARMER.

The future progress, development, and enrichment of the United States is contained in the present good-roads movement. One of the astonishing and unexplainable things is the opposition of the farmer, in some sections, to the construction of good roads.

The farmer is ordinarily a thoroughly practical, common-sense individual, yet in the matter of good roads he has not been a willing or active advocate. He seems to have laid aside the good, horse sense he

in this country, which, if introduced, might be the means of greatly reducing the annual yield of potatoes. Should these diseases become prevalent throughout the United States, the cost of producing future crops might be very greatly increased.

Do not, therefore, under any circumstances, use foreign-grown potatoes for seed, either at the north or at the south. The sorts now coming to this country are late sorts and are not adapted to planting in the south where early potatoes are the main crop; neither are they adapted to planting at the north, for they will not produce a satisfactory yield.

They are not adapted to the soils or to the climate of this country and will not yield profitable crops; but the danger of introducing diseases not now present is sufficient reason for refusing to plant them.

NEW BOOKS RECEIVED.

Reviews that Show What the Reader May Expect to Learn.

PEDAGOGY FOR HORSES.

Lovers of horses will read with delight David Buffum's new handbook

A Monument to Crooked Roads.

BY SAM WALTER FOSS.

"One day through the primeval wood
A calf walked home, as good calves should,
But made a trail all bent askew,
A crooked trail, as all calves do.
Since then three hundred years have fled,
And I infer the calf is dead.
But still he left behind his trail,
And thereby hangs my moral tale.

"The trail was taken up next day
By a lone dog that passed that way;
And then a wise bell-weather sheep
Pursued the trail o'er vale and steep,
And drew the flock behind him, too,
As good bell-weather always do.
And from that day, o'er hill and glade,
Through those old woods a path was made.

"And many men wound in and out,
And dodged and turned and bent about,
And uttered words of righteous wrath
Because 'twas such a crooked path;
But still they followed—do not laugh—
The first migrations of that calf;
And through this winding wood-way stalked
Because he wobbled when he walked."

employs in the conduct of his own business when it came to road construction. He forgot his ideas and practices of economy, and yearly largely squandered the money and labor appropriated to road construction in impractical and improvident methods. No one will ever be able to calculate the loss to the farmer that bad roads have entailed.

The modern farmer studies the markets and crop conditions closely. The ability to realize on his crops when prices are high means many dollars to him. The ability to haul maximum loads to the markets at all times of the year is absolutely essential to him to enable him to get the greatest profits out of his crops. Yet there are large sections where, for long periods, the roads are practically impassable. During these periods of impassability the markets may be at the highest points of the year and hundreds of farmers wholly unable to take advantage of it.

Three or four months every year their business is at a standstill on account of bad roads. Good roads will permit them to haul either to or from the farm every day in the year, and to do business every day.

Good roads will increase the earning capacity of every farm at least twenty-five per cent.—*Better Roads Magazine*.

DON'T USE FOREIGN POTATOES.

Although home-grown seed potatoes are selling at high prices, foreign-grown potatoes should not be substituted for them, says the secretary of agriculture. Europe has several potato diseases not now known to exist

entitled, "The Horse, His Breeding, Care, and Use." The author has given many valuable hints on the feeding, care, and breaking of horses. The chapter on "Cure of Vices" is discussed on the basis of the famous Darwinian theory "that the minds of animals do not divert from men in kind, but only in degree." With a few word changes, the chapter would form an excellent pedagogical guide for use in the schoolroom. On every page of the book the author's intimate knowledge of horses and his keen experience with them are shown. The book is published as one of the Outing handbooks by the Outing Publishing Company, New York. Price, 70 cents.

COMMON SENSE IN POLITICS.

It is so seldom that one discovers real "Common Sense in Politics" that it is a delight to read Job E. Hedges' little volume on that subject. The book contains a plea for the use of plain common sense in regard to public affairs. The author holds that there is no reason for pessimism concerning the future of the American government, and that man has demonstrated that he can govern himself. The greatest American political problem, according to Mr. Hedges, is to get all the people to think upon the same subject at the same time, and to express their views upon that subject at the polls. He deplores hypocrisy as the corroding evil in American life. The entire volume is a clear, sane plea for absolute political honesty. "Thou shalt not steal" he believes is meant to be applied as literally in public as in private life. Moffat, Yard & Company, New York. Price, \$1.25.

APRIL.

BY MARY CURRIER ROLOFSON.

April, month of the melting snow,
And the fresh, life-giving rain,
I love thee, for thou givest me back
My beautiful fields again.

Winter had hidden them away,
As a roguish boy might hide
His sister's playthings, and had left
Neither clue to them, nor guide.

Even the tumbling, old stone wall
Mine eye could no longer see;
Who could know, when the bounds were hid,
Where the missing fields might be?

Gone was the footpath to the brook,
And every path I knew;
I could not find the little hill
Where the wild strawberries grew.

I could not find the hollowed nook
That violets used to hold.
Hills and hollows were all alike,
Untenanted, smooth, and cold.

An empty world. But, April, thou
Hast found where my treasures lie,
And bringest them back with dancing step
And with laughter in thine eye!
—*Farm Journal*.

SUNFLOWERS.

"An operation for Kimmell," is the latest announcement. Did you ever have it?

Black strap molasses is proposed as a dressing for roads. The farmers might get stuck on this, anyway.

The newspapers are still printing a few words about paper-bag cookery; but it's in the boiler plate now.

The Nebraska ballot, the *Capital* says, is five feet long, "and covered with printed matter." What do you expect, silk or lace?

"Petticoats," the esteemed Chicago *Drovers' Journal* says, "are to have a slit, this year." This, we believe, is nobody's business except the wearers'.

There will be no tin-can day, this year, in Seneca. But the annual clean-up is on, and the town, according to the *Democrat*, is shining. But why no tin-can day?

The Chicago *Farmers' and Drovers' Journal* had a headline, Saturday, that read, "How to Dress Calves." We believe such items belong, properly, in the *Ladies' Home Journal*.

We await, with much eagerness, the seasonal rhapsody of Brother Blackburn, of the *Anthony Republican*. Spring approaches; the birds are twittering—but no word from Anthony.

Tobias Larson, editor, won in the old-fashioned spelling match, last week, at Highland College. Tobias floored the whole lot; but we have seen "stayed" spelled "staid" in Toby's poiper.

Colonel Roosevelt denies that he said "thuggery" in his Chicago speech, referring to the Taft methods. It's a safe bet that T. R. would use a shorter and uglier word in discussing this subject.

From the Manhattan *Mercury* we learn, with consternation, that "When the gong sounds on April 20 there will be fully thirty-five players who will try for a birth on the local club." This is Time to Call a Halt.

Kansas City, Mo., long the mecca of mining stock sharks, is now receiving the patronage of salt mine promoters. Many of the old names, too, are carried on the alluring letterheads that are flooding the mails.

The *Implement Trade Journal* must put its artist next to how to hitch to a road drag. The cartoon in last week's *Journal* is a terrible arraignment of the farmers—if only the whippetree had been properly attached.

It will bring comfort to the farmer heart, upon reading the weekly classic on the front page of the *Kansas Farmer*, to know that "Momus, son of Night," will bring him relief. Momus is the gink who was "Spurred by the Ankus of Ambition."

Between now and election, members of the class will please notice, many newspaper stories will be followed by denials. This is not a knock on reporting. It means that men are not certain, in troubled times, whether they say a thing or just think it.

The annual report of the Bell telephone system shows the company to have 6,632,625 stations in 70,000 towns and cities. The connections made number more than 24 million a day, on an average, or 7770 million a year. By using the city directory idea of mathematics it is estimated that these connections produced 14 trillion bad words annually.

HAY SCARCE THIS YEAR.

PROFESSOR LEIDIGH SAYS RAPE PASTURE OR RAPE AND GRAIN WILL DO.

Directions for Sowing are Given Here, and a Combination is Described Where Spring Feed is Desired.

Hay is very scarce in Kansas, this spring. In parts of the state early pastures will be an absolute necessity. Rape pasture or rape and small grains in combination is the answer, says A. H. Leidigh of the agronomy department in the Kansas Agricultural College.

Rape, as grown in Kansas, is one of the best annual forage crops for temporary spring and fall pasture. The leaves are rank and very succulent and tender. Rape seeds resemble turnip seeds in size, shape, and color. Because the seed is small and cheap it is a favorite with many farmers, as ten to fifty cents will buy enough for an acre. The seed will sprout early, even in cool, spring weather. The plants are not injured by light frosts. The crop does not grow much until warm spring days come, but should nevertheless be sown early to get its best growth. Rape will not give satisfaction as a pasture when the midsummer weather is hot and dry. It may be sown late in August for fall pasture.

MOIST AND MELLOW SOIL.

In growing rape the land for either spring or fall planting should be moist and mellow, and in a high state of cultivation. A shallow surface mulch and a firm under seed-bed should be the object in preparing plowed ground for the crop. For spring seeding, if the land has not been fall plowed the spring plowing or disking ought not to be more than two and one-half or three inches deep. For fall planting early summer plowing and clean, frequent, summer tillage is most successful.

Rape alone for close planting may be seeded broadcast and harrowed in or seeded with a small grain drill. This method will require from three to five pounds of good seed to the acre. Another method is to plant in rows and cultivate. This is the only method advised in western and southwestern Kansas, and can be used to advantage in all of the state. As a general rule, cultivation will give the best and the largest crops. Row planting, to give cultivation to the growing crop, needs more attention by farmers. Because of warming the soil, conserving moisture and preventing damage by tramping the crop, this method will enable the farmer to grow the crop with greater certainty in the western part of the state. When row cultivation is planned, this should begin as soon as the rows can be followed and be kept up even after pasturing commences. Planting can be done in rows with a corn planter equipped with special plates, or a garden planter may be used.

FOR SPRING PASTURE.

Where a spring combination for pasture is desired it is possible to use oats or barley and rape. Some growers seed winter rye and rape in the spring and state that no better pasture can be desired. It is advised that enough seed for almost a full stand of the grains should be used and then two or three pounds of rape per acre be added.

In the western part of the state, where irrigation is possible, rape or rape with the small grains for pasture offers an opportunity to save much hay and fodder. Sorghum is not a safe pasture crop and rape and sorghum cannot be desired for pasture. Rape pasture may cause bloating in cattle when pastured while wet. When these crops are covered with frost, care must be exercised to see that animals are not allowed to pasture on them.

RHUBARB AT \$2.50 A BASKET.

A Manhattan Gardener Forced \$500 Worth in Houses This Year.

Ever wonder where the fresh, tender rhubarb comes from, that you see in the winter markets? Most of it is

grown in Kansas. A. J. Nicholson, a resident of Manhattan, has been forcing rhubarb and selling it on the winter markets for several years, and says there is money in it, too.

Mr. Nicholson has three forcing houses which cost less than \$50 apiece. Each house has about 300 square feet of floor space. The beds are about a foot below the level of the ground and a roof-like structure is built over them, out of old lumber. This structure is covered with about 18 inches of old straw and manure. There is no need for windows, as the rhubarb will grow as well in darkness as in light. Many say that blanching improves the flavor and reduces the acid taste, thereby lessening the quantity of sugar required in cooking.

Late in the fall the rhubarb roots are plowed up in the garden and piled up until after the first hard freeze. Then they are sorted and the best ones planted about a foot apart, in the bed of the forcing house, leaving a path through the center. The roots left after sorting may be replanted in the garden the following spring, to produce new roots for the forcing bed the next winter. The bed is composed of loose, rich soil.

Soon after the roots have been transplanted, the house is heated for a few days to aid them in starting. Mr. Nicholson heats two of his houses with old, discarded stoves that have been put out of service in living quarters. He has not heated the third house at all this winter, and the rhubarb in this house is as excellent in quality as the other.

About four weeks after the roots have been started, the first rhubarb is ready for market. This rhubarb finds a ready market on account of its superior qualities, and sells at wholesale from \$2 to \$2.50 a basket, depending upon the time of the season. Mr. Nicholson has sold more than a hundred baskets already, this year, and one of the houses is still untouched. The other two houses will yield more than a hundred baskets. Mr. Nicholson's gardens adjoin the campus of the agricultural college.

In Choosing Trees.

Trees for street and lawn should be studied and selected with the greatest care—they are for life, often for several generations, yet a dollar often decides the kind of tree. Much more thought and time is given to the selection of an easy chair. Many persons will willingly spend thirty or forty dollars for a chair who would not think of putting that amount into a tree.—W. O. Graham.

When an Egg Cracks.

Eggs sometimes crack upon being immersed in boiling water or are found to be cracked when required for use. If this is the case, rub the crack gently with moistened salt, allowing a little time for it to penetrate, says the *New Idea Woman's Magazine*. The egg will then boil as well as an uncracked one.

ALUMNI NOTES.

N. S. Robb, '11, visited in Manhattan this week.

Carl Irwin, '11, has gone to Idaho. He may locate there.

Mose Elliott, '11, is now at Chulato, Fla. He is employed as a bridge inspector for the Florida East Coast Railroad.

Several of the alumni and former students of the Kansas State Agricultural College met at the home of Mr. and Mrs. Elmer Seeber, Fruitvale, Cal., March 23. The meeting was held in honor of Dr. C. A. Pyle, '04. Those present were: Mr. and Mrs. Ray Cole, Mr. and Mrs. Alexis J. Reed, Mr. and Mrs. Hallege, Mr. and Mrs. Roland Mitchell, Mr. and Mrs. W. B. Thurston, Mr. and Mrs. Elmer Seeber, Mr. and Mrs. William Wilkinson, Mr. and Mrs. Chase, Mrs. L. A. Fielding, Miss Lane, Dr. Fred Hayes, and Dr. C. A. Pyle. As is usual at all gatherings of K. S. A. C. students, an enjoyable evening was had.

THE WOOD LOT WILL PAY

FORESTER SCOTT TELLS HOW TO MAKE A PROFIT ON TREES.

Flood Lands May be Utilized for Catalpa Groves—These Poles in Demand at \$1.50 to \$3 Apiece—Pines Also Valuable.

If your wood lot is not being cared for you are losing a large profit. The wood lot occupies the richest soil on the farm, and in many cases it brings in the smallest returns. To make this land profitable it is not necessary to cut down the trees, blow up the stumps, and plant it to grain or some other farm product. Just plant new trees where there are vacant spots and cut out the undesirable trees so the valuable trees may grow and reproduce.

C. A. Scott, state forester at the Kansas Agricultural College, said recently: "An investigation of the general conditions of woodland reveals the fact that farmers usually class their timber land as wasteland,

Trees Have Habits.

All well-grown trees are pretty when young. If we could see them at forty we would make fewer mistakes in our selections. Some good trees have a host of poor family relations, and suffer from that fact, but they should not be blamed for that. Some are handsome in their teens, but develop into hags. Some fine trees die young and yet are very desirable for the lawn. Then there are some excellent trees with bad habits, and dirty habits. All trees have some objectionable features, but all are good in their proper places and for certain purposes. For instance, the catalpa, which matures in about twenty-five years, is not suited for either street or lawn. It is dirty, illshapen, and, worst of all, short lived; but is an excellent tree to plant in groves for wood, railroad ties, posts, telegraph poles, etc. Nurserymen praise all their trees, and you can't blame them, for they are all good in their proper places.

—W. O. Graham.

or practically such. Under this system of the timberland caring for itself, the yield of merchantable material is not sufficient to pay interest on the investment and taxes on the land, and from a financial standpoint it is unprofitable land to hold.

IT'S POOR MANAGEMENT.

"There is not a farmer in the state," Mr. Scott continued, "who would expect to make a financial success of farming if he were to handle his business on the basis that most farmers are handling their wood lots. The solution of the situation is just this: The unprofitable trees must be cut and cleared from the ground, and the land stocked with a desirable species."

There is a demand for all the catalpa poles and posts that can be grown in the state. Poles that will cut eighteen feet in length with a four-inch top will bring \$1.50, and poles 30 feet long for stack poles will sell at \$3. According to these figures a good profit can be made from land which has been planted to trees. Since it takes from 12 to 30 years before a stand of timber can be cut, it seems hardly worth while to plant trees, but the land with young trees on it is worth much more than land without them.

"The hardy catalpa is a profitable tree," Mr. Scott said, "for planting on the low, rich, bottom land that is occasionally subject to flooding. On such land they make a remarkably rapid growth and will, when from 12 to 16 years of age, cut from 3000 to 3500 posts an acre.

AS TO THE COTTONWOOD.

"The cottonwood makes a more rapid growth than the catalpa on the same kind of land described, and will, when from 24 to 30 years old, cut from 15,000 to 20,000 board feet of lumber to the acre. Cottonwood lumber is satisfactory for farm building pur-

poses and in many respects is superior to the pine. The lumber is light, but tough and strong enough to give excellent service for such buildings. It is also used extensively for crates, slack cooperage barrel staves, and it is considered by fruit and vegetable growers as one of the best package materials obtainable."

An improvement of the present stand, without cutting down all the trees and replacing with new ones, may be accomplished by cutting out the least desirable trees and underplanting the remainder with such trees as the red cedar, for the production of posts and poles, or with White or Austrian pines for the production of lumber. These varieties will grow on almost any kind of soil, and with the exception of the White pine, are entirely hardy and desirable for planting. The White pine is occasionally injured by severe droughts and the extreme dry conditions of some Kansas summers. It should be planted on the north slopes where it will be protected from hot winds. White pines grow quite rapidly, yielding in 30 to 40 years a cut of from 8000 to 12,000 board feet an acre of excellent lumber for building purposes.

TALK ROADS APRIL 13.

A Program Suggested by the Extension Department for Farmers' Institutes.

How many farmers know that it costs them twenty-five cents a mile to haul a ton of farm produce to a market over the ordinary, unimproved roads? How many know that for a few cents an acre a year—less, probably, than the value of the grain they drop in feeding or hauling—they could pay their share on the cost of a good road? How many ever think about the wet feet of their children who trudge through mud to sit all day, damp and snuffling, in a poorly ventilated school room? Bad roads, unimproved roads, no roads worth talking about in good company, are responsible for these conditions.

The State Agricultural College wants the farmers to think over these things. It wants them to talk, too, in their institute meetings, April 13, Saturday, at 2 o'clock in the afternoon. It has invited the granges and every other association in the state to talk, also, and help the idea along. And here's a program for the meetings, an outline to which anyone on earth is welcome:

Methods: 1. Right and wrong grading season, tools, width of road, etc. (10 min.) 2. Fair average cost of grading, perfectly, one mile of road in this township. (5 min.) 3. Right and wrong methods of draining a road. (5 min.) 4. Draining—when, how, by whom, fair cost, etc. (10 min.) 5. Why not contract both grading and dragging? (10 min.) 6. Advantages of concrete or stone bridges and culverts, durability, use of home labor, etc. (10 min.)

Laws and Policies: 1. Why not separate office of assessor from that of road trustee, and elect road trustees on score of fitness to supervise the building of roads, and keep them busy at least from March 1 to October? (10 min.) 2. Advantage of classifying roads into county and township roads, etc., according to law. (10 min.) 3. Why not build each year a few miles of permanent earth roads. Instead of "patching" all the roads, building first the roads with greatest travel? (10 min.) 4. Reports of funds available this year for township roads. (10 min.)

Why not have a county road and bridge engineer?

Why not have the state engineer approve all plans for bridges and culverts costing \$500 or over?

Does our county use bridge plans offered free by the state highway engineer at the agricultural college? If not, why not?

No Race Suicide Here.

The San José scale is just visible to the naked eye. The insect passes the winter as a half-grown scale lying flat on the bark. Early in April the males transform and emerge as delicate two-winged gnats. The overwintered females arrive at maturity early in June. The family begins to grow at once and it continues to grow at the rate of nine or ten scales a day for about six weeks.

Mr. and Mrs. C. H. Clevenger have moved from 806 Poyntz Avenue to 831 Laramie Street.

"More smiles than tears, love; that's April weather."—Clyde Fitch's April Weather.

HAVE CLOSETS BUILT IN.

MUCH SPACE IS SAVED, AND YOU HAVE A MODEL CONVENIENCE.

It Isn't Always Easy to Get Harmony in Dining-Room Furnishings—Wall Closets for China and a Buffet Combined.

In buying a china closet, the first consideration is to select one that will harmonize with the dining room and the other furnishings. The style should be plain and there should be little or no carving. Just now, a dull finish is more popular than a high polish for woodwork.

Many persons like a mission dining room. If the room is not too small, this style is good. A mission china closet is usually larger than those from other woods, the straight lines and square corners of mission furniture being better adapted to the more massive styles.

IT SAVES TIME.

Better than any other kind is the built-in china closet. Saving of time, space, and labor is being so much emphasized, nowadays, in building. A built-in china closet is much easier to care for than the other kind, and it does not take up space in the room.

There is a great opportunity for ingenious planning in the matter of built-in furniture in the dining room as in any other room in the house. Girl students in the Kansas Agricultural College have an opportunity to show their originality in designing in a course which is a study of model arrangements of houses.

A COMBINATION CLOSET.

A good arrangement for the dining room is to have the china closet and buffet combined—the cupboard for dishes above and the drawers for the linen below. A space can be left in between to set dishes on, as when serving from a buffet. It is very convenient to have the cupboard open into the kitchen or pantry, also.

This Butter To Congress.

The dairy department of the Kansas Agricultural College made four pounds of butter for the secretary of the National Dairy Union, last week. One pound was made from cream from the following four breeds of dairy cattle: Ayrshire, Guernsey, Holstein, and Jersey. The butter will be sent to the committee on agriculture of the House of Representatives to be used to oppose a new oleomargarine bill which has been introduced by Congressman Lever of North Carolina. If this bill becomes a law, the ten-cent tax on colored oleomargarine will be reduced to one cent a pound. The cost of manufacturing one pound of butter is between fourteen and fifteen cents; the cost of manufacturing one pound of oleomargarine, between eight and twelve cents. With only a one-cent tax on colored oleomargarine, the cost of manufacturing this imitation butter would be so much less than the cost of making butter that the butter makers would not be able to compete with the oleomargarine manufacturers, it is asserted.

New Veil Case.

To keep veils fresh and unwrinkled a new case has been designed. It is made of silk and wadded to provide a soft surface for the perishable mesh. A round wooden stick the size of a broom handle, and about 24 inches in length, is overlaid with cotton wadding and covered with china silk. The ends are neatly drawn into a disk of the wadded silk. Dozens of veils can be wrapped around this soft form and kept in perfect condition, says the *New York Herald*. While the silk and wadding are being joined together a little sachet powder may be applied to the inside.

Woe to the Bow Wows.

John Davidson and Martin Souders have gone to Flagstaff, Ariz., to assist Theodore H. Scheffer of the government service in his experiments against the prairie dog. Mr. Davidson and Mr. Souders will remain in the field until next fall, when they will return to college.

TWO HEADS ARE BETTER

FARMERS AND COUNTY ADVISERS
COULD HELP ONE ANOTHER.

R. R. Birch, a Graduate of 1906, Believes
Scientists Might be Benefited by
Personal Experiences in
the Country.

To The Kansas Industrialist:

The article in a recent number of THE KANSAS INDUSTRIALIST, entitled "A Man in Every County," seems to me to contain a central idea which deserves the most careful consideration by the farmers of Kansas. The author of the article holds foremost in mind the bringing of the farmer closer to the scientific man. It has occurred to me that a no less advantage would be gained in bringing the scientific man closer to the farmer. That is, the latter, after spending a certain time among the farmers and visiting farms in person, will obtain a deeper insight into the problems that this generation of agriculturists must solve. Thus, the scientific man, in addition to being a disseminator of facts that have been worked out by colleges and experiment stations, would also become the medium of transmission from farm to farm of certain ideas and methods which would otherwise be overlooked.

ONE WINS; ONE LOSES.

Two farmers may live side by side. Both may be equally efficient, but each will see in the other some fault of method which is costly. Each is losing by not following, in some particular, the habits of his neighbor. Each continues in his own way and neither ventures the suggestion which would be so helpful to the other. But the suggestion must be made and men skilled in the theory and practice of up-to-date agriculture must be employed for the purpose.

Farming is a business and must have business principles applied to it. It is known that to-day there are "business doctors" who are consulted by certain companies whose profits are becoming less and less each year. This is not made necessary because incompetent men are managers, but simply by the fact that times change and these men have been too busy to take advantage of new conveniences and methods that are constantly being introduced. But farming is even more than a business—it is the strict application of a certain group of sciences. New scientific facts are constantly being added to those already accumulated, and it would be the aim of these chosen scientific men to extend the application of this new knowledge.

WORK ON CIRCUITS.

The problem of the prevention and eradication of communicable animal diseases, in itself, is sufficient ground to warrant the employment by a county or group of counties of one who, by personal attention and timely advice, would be able to save live-stock owners incalculable losses. Of course it is absurd to suppose that one man could visit personally all the farms in a county when really only a few farms can be reached by the present system of lecturing, but one man probably would be able to make all the visits requested, first in the state and, as the work progressed, in a county.

A busy farmer cannot keep himself actually up-to-date in carrying out the numerous enterprises necessary in diversified farming any more than he can be his own physician or his own veterinarian. But it should be so that he can at any time consult a man who makes it his business to be able to give the best advice that science and experience have to offer. And general information goes only part way. The recommendations must be specific, the contact personal.

LECTURES WON'T DO.

Lectures delivered and demonstrations made in farmers' institutes have been and are still of great value, but they fall far short of the mark. Sooner or later there must be developed a class of men whose business it is to visit farms in person when the owners desire it. These men must be taken into confidence by the farmers and the conditions as they exist explained to

them. There is a great difference between saying to an audience in general terms, "Rotate your crops" and saying to a man personally, "Why not put alfalfa in that field this spring?" There is the same difference between saying to an audience, however interested it may be in your remarks, "Eliminate from your herd all clinical cases of tuberculosis" and saying to a man whose farm you are visiting, "You are keeping that cow at an economic loss to yourself, and she is a menace to the health of your family."

The plan offers a distinct advance in that it makes for specific information based on conditions actually observed, instead of offering general information which may or may not apply to certain specific conditions.

It is self-evident that the plan must be worked out slowly and that the utmost care must be taken in the selection and training of the men who are to extend the influences of the agricultural and veterinary colleges another step closer to the farmers of the state.

KNOW THE COUNTRY.

Men must be selected who are familiar with the country in which they have to work, who have been familiar with farming since boyhood, and who possess not only a theoretical knowledge of what is best, but a practical, working knowledge based on both science and experience of what is best under the multiple combinations of conditions that will come under their observation. The turning of unfinished men into this new field would discredit an idea which deserves to live and be developed.

R. R. BIRCH, '06.

Cornell University, Ithaca, N. Y.,
March 25.

HEAVY HORSES THE DEMAND.

A 1700-Pound Gelding Worth Nearly as
Much as a Light Team.

Rearing three or four colts a year, the progeny of the work mares, many farmers don't appreciate the market demands in horse flesh. They feel they haven't enough product to market to warrant them in paying attention to the demand.

C. W. McCampbell, secretary of the State Live Stock Registry Board at the Kansas Agricultural College, told, recently, of a Kansas stockman, who had paid considerable attention to the horse markets. A short time ago he decided he needed a team of work horses.

Looking at what was offered in his county, the man bought a team of horses weighing 2400 to 2500 pounds. The seller had a gelding weighing 1700 pounds he offered to sell for \$25 more than he asked for one of the team. The informed horseman made a purchase.

In telling about his purchase he said he could take the 1700-pound horse to a big horse market and realize nearly as much for it as he could for the team of lighter horses. And the moral of this story, Mr. McCampbell says, is that it pays to rear heavy horses. The market demand for them is strong.

Fluffy Rice.

This is the method followed by a cook whose boiled rice is always perfect, says the New York Evening Post. She washes the rice through several waters and afterwards puts it in a colander, allowing the cold water from the faucet to run through it. The rice, a little at a time, is thrown into rapidly boiling water, and cooked for about 16 minutes. At the end of that time the saucepan is placed, uncovered, in the oven, where, after a few minutes, every bit of water evaporates, leaving the dry rice as fluffy as possible.

Padding Scallops.

This is what I call an easy way of padding scallops, says a contributor to Needlecraft. Use spool darning-cotton and, if the scallop is very wide use three strands, catching down at intervals and buttonholing over. For a medium scallop use two strands, while a narrow scallop will require but one strand, which can be carried along as you work.

KEEPS THE BEST LANDS.

YOUR UNCLE SAMUEL STILL HAS A
FEW MILLION ACRES OF COAL.

Oil, Phosphate, Water-Power Sites—A Lot
of Such Tempting Prizes the Gov-
ernment Has Withdrawn
from Public Entry.

Uncle Sam is still the largest owner of coal lands, oil lands, phosphate lands, and water-power sites in the United States, holding the title to an area of such lands aggregating more than ninety million acres. In 1906 the government began the policy of withdrawing from public entry all lands underlain by coal, and since that time it has made a great many withdrawals, including not only coal, but also the other resources mentioned.

COAL LANDS WORTH MILLIONS.

This action has been taken pending investigation of these resources by the United States Geological Survey, an investigation which in the case of coal lands is followed by their classification, appraisal, and restoration to entry. Lands of the other classes remain withdrawn, pending proposed legislation by congress, which shall provide for their proper development.

In the last three years, to March 1, 1912, the Geological Survey has classified and appraised as coal land 16,500,580 acres, with a total valuation of \$712,328,501. At the minimum price at which such lands were formerly sold this acreage would represent but \$267,585,075, the difference under the new plan thus approaching half a billion dollars of eventual additional income to the government from its public lands as a result of adopting the policy of classification.

AND WATER POWER, TOO.

Coal-land withdrawals are still outstanding to the extent of 69 million acres, and these lands are being classified by the Geological Survey as rapidly as possible, the rate approximating 10 million acres a year.

A study of western rivers by Geological Survey engineers has developed the fact that many very great water powers are still owned by the government. A large number of power-site withdrawals have been made by the President on the recommendation of the Geological Survey since May, 1909, when the first of these recommendations was made.

The power-site withdrawals now outstanding aggregate 1,747,522 acres, distributed along the important power streams of the western states. Reservoir withdrawals have also been made to the extent of 94,908 acres.

WHAT ABOUT YOUR CELLAR?

Is It Sanitary, or Is It a Place in Which to
Hide Things?

Many persons think of a cellar as a storage place rather than one of the most important parts of a house. They hide things in the cellar, to get them out of the way. This is particularly true with most farm cellars.

Most cellars now used are unhealthful because they are neglected as to sanitation and drainage. Generally they are dark and poorly ventilated. If water should happen to get in, as it frequently does, it finds no ready means of exit, but must be dipped out or is allowed to sink into the ground. Such conditions will produce more or less deadly vapors that are almost certain to pass through the house and so cause illness.

Most of the foods, if kept for any time in the home, are placed in the cellar. If health is expected the cellars must be kept in the best possible condition. This means cleanliness. If the walls are smooth, the cement floor painted, and the drainage good, there is no reason why the cellar may not be as clean as any well-kept kitchen.

Stuffed Pressed Steak.—Pound a large round steak flat and tender. Spread with highly seasoned stuffing, roll into shape and sew tightly in cheese-cloth. Boil for three hours in salted water, take out and press under a heavy weight until cold. Take off the cloth, cut in thin slices, and serve with horseradish or made mustard.

Say, Mr. Editor:-

DO FARMERS READ? They Certainly Do.

If you doubt it, you can prove the case by printing something to which they are opposed. You'll hear about it. Why not print

SOMETHING Farm Families Like?

Carry a column, occasionally, that the women, too, will read. Everyone reads about agriculture, and THE KANSAS INDUSTRIALIST is helping to supply the demand. It's the most timely topic.

Do You Understand Publicity Like This?

It is not advertising. Don't make that mistake, Mr. Editor. It is taking information to the persons who need it most. And that is exactly what newspapers are for, isn't it? It is taking facts to the farm that the farmer and his family cannot get in college because they have no time to go there.

We Are Sure of Our Facts.

Every article sent from Kedzie Hall to the newspapers of the United States, either for exclusive use or in the "Plate Service," is authenticated before it leaves the office. That makes the farm articles from the Kansas Agricultural College invaluable. Write us about them.

Do You Read THE KANSAS INDUSTRIALIST?

If you are a graduate of the college, a newspaper man with a liking for "Time Copy," a state officer, or the head of a farmers' institute, and are not getting this little paper you are missing some good things about Kansas agriculture. If you do not belong to any of those classes you can get the paper by subscribing. Don't forget that.

It is quoted from New York to San Francisco. It is regularly clipped by more than 1100 newspapers and 110 farm publications. It is read in eighteen countries. And it costs fifty cents in Kansas, seventy-five cents outside. : : : : : : : : :

THE
Kansas Industrialist

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, April 13, 1912

Number 25

CEDARS EASY TO GROW.

SUCCESS WITH EVERGREENS DEPENDS ON CAREFUL HANDLING.

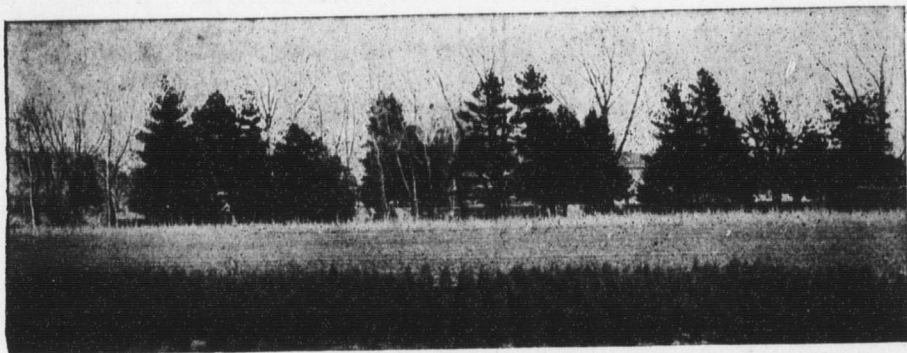
The State Forester, C. A. Scott, Tells How to Care for the Thousands of Trees Being Sent Out this Week.

Success with evergreen trees depends upon right planting and careful handling. That's all there is to it. No need of thinking the method of growing mysterious. Just know how first, then do it right. This is the assertion of C. A. Scott, state forester, who is this week sending out from the agricultural college thousands of evergreens for planting in western Kansas. These trees will be used principally as breaks for dry and cold winds. Mr. Scott tells how to care for them. "See that the trees are in a good, thrifty condition when they arrive," says the forester. "When expecting a

or two of water about the tree just after the roots are covered is not recommended under any circumstances. If the roots are in contact with loose, moist soil, and the soil well soaked about the hole, this extra supply of water is unnecessary. In this practice the soil runs together and bakes, and in drying the filled-in soil shrinks and leaves an opening between it and the surrounding soil. Leave the upper two or three inches of soil in a loose, open condition, so as to serve as a soil mulch.

THE HOT, DRY WINDS.

The tree should be set two or three inches deeper than it was in the nursery. This prevents the wind from loosening it. In the western part of Kansas evergreens need a protection from the hot, drying winds. Barrel staves or shingles stuck in the ground a few inches back on the south and west sides of the tree will give sufficient protection.



A Nursery Lot of Cedars.

shipment, keep in communication with the freight or express office and get the trees as soon as they arrive. If they are not planted at once, store them in a moist place to protect them from the sun and wind until ready to plant. Have the ground ready for planting. Do not expose the roots to the air. Keep the soil about the trees cultivated and in a loose condition, so as to conserve moisture and free the land from weeds.

DON'T WET THE TOPS.

If the conditions are unfavorable for planting, the trees can be kept for several days without injury. To keep them from molding or heating, open the bales to let the tops have plenty of air. If necessary, to keep the roots from drying out, moisten them by pouring a little water over the stems at the top of the bale. Do not open the bale to pour the water on the roots and be careful not to wet the tops of the evergreens.

Before opening the bale for planting, make a bucket of puddle by mixing sticky clay and water until as thick as cream. Do not use water as a substitute for the puddle. It is very necessary that the ground be in a loose, friable condition at the time of planting the trees. The methods used in planting will be determined largely by the number of trees to be planted and the nature and location of the planting site. If a large number of trees are to be planted, furrows may be made with a plow or lister and the holes dug in the bottom of the furrows.

But when only a few trees are to be planted, and especially if the desired planting site is of such a nature that horse power can not be used on it to good advantage, the soil in the immediate location of the trees should be spaded up and the holes dug in the well-pulverized soil. If the soil is dry, it should be well soaked two or three days before the trees are set.

Place the tree in an upright position; put the roots in the natural order and fill in about the roots with loose, moist soil. Cover the roots completely, and tramp well so as to leave no air spaces between the roots and the soil. Continue to tramp the soil firmly until within two or three inches of the top.

The practice of pouring a bucketful

The newly planted trees should be cultivated in the best possible way for the first one or two years or until they are firmly rooted. This cultivation should keep the ground free from weeds and form a soil mulch.

Do not try to plant trees that are too large, as evergreens should never be cut back or trimmed. The best and most desirable trees to plant are from twelve to eighteen inches in height. They are cheaper and a greater percent of the good, thrifty trees are obtained in those of smaller size.

ALUNITE IN UTAH.

A Potash-Bearing Mineral is Described by the Geological Survey.

Continued interest in American potash discoveries has necessitated the reprinting of practically all the recent government publications on the subject. The United States Geological Survey has just reissued Bulletin 511, by Hoyt S. Gale, on alunite, a potash-bearing mineral found in a newly discovered deposit near Marysvale, Utah. Special interest attaches to alunite, for the potash which it carries is believed to be commercially soluble—that is, it can be reduced to fertilizing material by a simple process of roasting and leaching the rock.

Advantages of Grading Cream.

Just as the highest grade of butter on the market brings the highest price, so the highest grade of cream which will make the best butter should net the person producing it a better price than is paid for poorer grades. Cream should therefore be graded if the farmer is to be fairly recompensed for the cream he sells.

A Farmer's Boy.

It doesn't take much to satisfy an ordinary, healthy boy and keep up his interest. Most farmers do not give the matter any thought, but others feel they cannot afford the little attention that would make the boy happy. Isn't it worth while if you keep the boy?

The ball-player who is peevish, who runs to the manager with his woes is lost; the player who tries to over-awe Mike is foolish.

FIX UP LITTLE TOWNS.

TOO MANY PLACES GO UNCARED-FOR, DIRECTOR MILLER SAYS.

Clean Up; Grade the Streets; Plant Trees; and Have a Small Public Park—Photograph Ugly Back Yards and Exhibit Pictures.

People are in the habit of expecting to see beautiful streets and yards and parks and parkings in large cities, but usually they forget the importance of "fixing up" the small towns. "I am going to collect a thousand photographs of unsightly things in our small towns and show them all over the state," said J. H. Miller, director of college extension, a few days ago. "Why is it that in many counties the worst roads are the small-town streets?"

"Why is it that in some small towns there are many streets without a tree in the parkings?"

"Why is it that in scores of small towns, even in Kansas, there are streets not graded, no parkings, and no parks?"

SMALL PARKS NEEDED.

Every incorporated town should provide from one to six small parks of about a quarter block, and at least one park covering an entire block, and then, while land is cheap, provide at least one five-acre park. The time is coming fast when every village will provide parks as naturally as it provides streets and alleys, and it will be found much cheaper than jails and juvenile courts.

"Every incorporated town should have in its council a committee on 'Beautifying the Town,'" Mr. Miller continued. "The mayor should also appoint a coöperating committee of three or five, not in the council. These committees should plan for trees, shrubs, 'clean ups,' neighborhood contests, etc. This main committee should be required to walk in a body, at least once a month, all through the town and out on every road, and then walk back into town, trying to imagine what the impression of the town would be if the committee-men were seeing it for the first time.

THE BACK-YARD VIEW.

"If the railroad runs near or through the town, this committee should take in 'the sights' viewed daily by hundreds of strangers. They should have photographs taken of every badly kept place, front yard, back yard or alley, and exhibit the same in the post office until the place is improved.

"I have often thought it would be a good investment for every town or city to buy, by condemnation if necessary, a considerable strip of land on each side of the railroad right-of-way, and control the buildings to be put on it; or plant trees, or in other ways shut out of the picture the pig pens, vaults, coal houses, stables, manure piles, and dirty back yards. Why not try to present a better view to the thousands of people who pass through a town? I know of one town that plans to subscribe \$1000, this year, to advertise its advantages. A prospective visitor coming into that town, now, on the railroad, would be almost tempted to buy a ticket on to the next place."

If any mayor of a small town or city in Kansas is wondering what he can do, let him start a movement to beautify the town. Let him organize a "City Beautiful League" and get the teachers and the children, the women's club and the merchants, and everybody interested in better streets, better drainage, cleaner streets, graded alleys, and cleaner alleys; more parkings with trees and shrubs, more flower beds, finer and more productive back yards, more vines, more vacant lots seeded to grass or planted to vegetables, and the whole town or

city a more beautiful place for the people who live there.

Every owner of a vacant lot should be urged to plant trees in the parking. Plant only one variety of tree on one street. Plant trees on the school grounds, in church lots, in the cemetery. Plant trees. Plant trees. Clean up. Do it in April, 1912. The agricultural college will help by letters and by sending men to advise with committees on ways of "sprucing up" a town, if desired.

POTASH IN THE MOHAVE DESERT.

An Old Lake Bed Contains Millions of Tons of the Salts.

A large deposit of potash salts in the Mohave Desert of southern California has been reported by field men of the United States Geological Survey and the Bureau of Soils. Analyses of the brine in Borax or Searles Lake, in San Bernardino county, show 6.78 per cent of potash (K_2O), and the amount of the material available is known to be enormous. The potash is believed to be in a readily available form—that is, it can be used as fertilizer without employing any special reduction process—and the climatic conditions of the area in which the deposit occurs are especially favorable to its separation and recovery by solar evaporation.

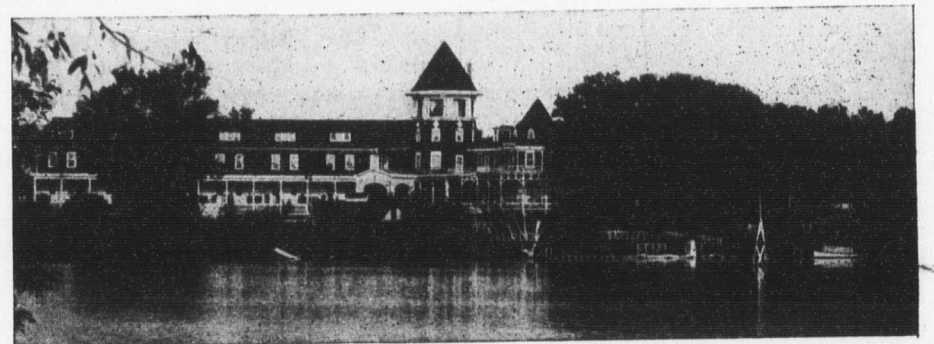
Borax Lake is the last remaining pocket of a great ancient lake, which has almost dried up, thus concentrating a vast amount of saline minerals. Millions of tons of salt, soda and borax cover the surface of the lake and deposits of soda and borax have been worked, but the development of the potash in the lake deposits had not been considered until recently. California capitalists are now figuring on the operation of the property, and the potash output may form at least a most profitable by-product, inasmuch as there is great demand for the more common minerals carried in the lake brine.

AN AMUSEMENT PARK PLANNED.

A Manhattan Company is Building a Recreation Resort at Eureka Lake.

An amusement park is being planned at Eureka Lake, on the interurban line that is being constructed between Manhattan and Junction City. A force of men is at work now on the park. J. T. West, of the Manhattan Street and Interurban Railway, the company that is to establish the park, said, recently:

"We expect to have a first-class park at Eureka Lake. We hope to



The Interurban Resort Near Manhattan.

make the place beautiful. There will be a lot of row boats and a steam launch or two. Of course we'll have to have a merry-go-round.

"There will be a dancing pavilion, too," Mr. West said, "and a large auditorium. Seven or eight thousand lights will make the place attractive. Some statuary will be placed in the park. The water-works system already has been constructed."

The new park will be at the opposite end of the lake from the Odd Fellows' Home. Eureka lake is about six miles from Manhattan, and when the interurban road is completed, the park will not lack for visitors in search of a good time. The launches and row boats will be a strong attraction.

GARDENS FOR IDLE BOYS.

GIRLS, ALSO, HAVE A PLACE IN THE GROWING CONTESTS.

Competition Now Open for Vegetable and Flower Prizes—Start a Contest in Your Town, if There Isn't One Already.

Vacant town lots might well be converted into pretty flower and vegetable gardens by idle boys and girls. It's good for the lots and excellent for boys and girls.

On that platform the extension department of the agricultural college is campaigning in Kansas now for boys' and girls' garden contests—a contest or two in every town. Prizes for the best all-around family garden, for the prettiest girls' flower garden—get that straight; prettiest garden—and prizes, also, for the best potato patch, are offered.

IT'S YOUR OWN PARTY.

Of course, the college can be only a promoter in these contests; it can't offer cash prizes. It is urging commercial clubs, other organizations and individuals to assume the responsibility for the prizes and for starting the competition. Flower garden contests for girls and family garden or potato-growing contests for boys are suggested. The college will send information about the growing of vegetables or flowers, and blanks upon which to record yields, sales, and other information desired by the judges.

Contests already have been started in some towns. For civic improvement and for promoting civic pride, not to mention the other advantages, the contests have proved valuable. In some places this competition has been started in an effort to get the town cleaned up, generally—as a part of a "city beautiful" campaign. Nothing improves a town's appearance more than transforming its bare or weed-ridden lots into vegetable and flower gardens.

HOW TO SCORE.

The family garden contests are open to boys, and girls, too, between the ages of 10 and 20, whether on the farm or in town. The garden plot is to be 50 by 100 feet. In this plot are to be grown at least 10 varieties out of a list of 16 of the common varieties of vegetables. This is the 16 from which to select: String beans, peas, radishes, lettuce, cabbage, onions, beets, sweet corn, parsnips, salsify, carrots,

tomatoes, spinach, turnips, cucumbers, and peppers.

In awarding prizes, these points are to be considered: The total amount of vegetables produced, the cost of material and labor, and the method of rotation whereby the ground or plot may be made to yield one or more varieties of vegetables throughout the growing season. The extension department is glad to furnish information about the contests to anyone interested.

Don't just pin your ruchings and dress shields in place; baste them instead and see how much comfort they give you. It really doesn't take much longer to baste than to pin.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, APRIL 13, 1912.

THE EDITORIAL MEETING.

The editors of Kansas have been entertained by the good people of Lawrence and by the university, and very handsomely, too. But that was to be expected. Anyone who visits the state's big school is certain to be welcomed in a way that brings him back again, a good friend. And that is important, especially in a state institution. It is particularly fortunate if your visitors chance to be three hundred and fifty of the leading editors of the state. They are men who see things and understand what they see. They are seldom fooled. Their impressions are valuable to the whole people. What they say, afterward, about their visit will be significant whether they write for the prize so generously offered by Lawrence or only to tell what they think. No state in the Union has a smarter lot of men. The university is certainly to be congratulated upon its success in helping to care for so many of them.

DOCTOR WILLARD'S SERVICE.

Fifty years is not a long time when a man is busy. The traveler who has gone that far on his way still sees ahead of him hills and hills and hills to be mounted, as one who comes up from the valley. There remain great tasks to do, obstacles to overcome, ambitions yet to be realized, perhaps. The heart is still strong at fifty, and in the case of Dr. Julius T. Willard, head of the department of chemistry in this college for fifteen years, it is kindly. Dean Willard's fiftieth birthday anniversary, last Tuesday, was an especially felicitous occasion. It brought to him the good wish of every man and woman in the college who knew of the day's significance; it gave him the assurance of the esteem and respect and friendship of those among whom he had labored since his graduation in '83. A review of Dean Willard's various activities has been prepared for THE KANSAS INDUSTRIALIST by Dr. J. D. Walters, head of the department of architecture:

"Upon graduation, in 1883, Doctor Willard became assistant in chemistry. In 1887-'88 he studied chemistry at Johns Hopkins University. While there he was elected assistant chemist of the newly organized experiment station here. In 1897 he became professor of chemistry and chemist of the experiment station; in 1900, director of the experiment station. In 1886, in connection with Prof. George H. Failor, he compiled a laboratory manual for the use of the classes in analytical chemistry, and in 1894 he published 'The Organic Compounds of Everyday Life,' as a textbook for his classes in organic chemistry.

"In 1887 he received the degree of Master of Science from this college, and in 1908 the degree of Doctor of Science was given him. In 1906 he was relieved of the directorship of the experiment station in order that it might have added responsibilities attached to it which would require the entire time of the director, but in 1908, being vice-director, he was again

drafted to take charge of this work for half a year until another person could be found to relieve him. In 1910 he was made dean of the division of general science.

"Some of the earliest experiment station work with which Doctor Willard was connected was upon sorghum, for which at that time great hopes were entertained as a sugar-producing plant. These experiments were continued six or eight years, and amply demonstrated the possibility of improving this plant. The work is described in bulletins Nos. 5, 16, 25, 36, and 43. He was also interested in work upon sugar beets. This is recorded in some of the bulletins already named and also in bulletins Nos. 78, 83, 94, and 103. With other members of the staff, he also conducted experiments in soil moisture and, in connection with others, but chiefly at his suggestion and through his persistency, experiments were begun and continued for several years looking toward the improvement of the protein-content of Indian corn by seed selection based on analysis of individual ears. The results demonstrated the feasibility of this, and some specimens of corn of extraordinarily high protein-content were produced. These experiments are described in bulletin No. 107.

"The bulletin in which Doctor Willard takes the most pride is No. 115, in which he describes a method which he discovered for exactly calculating a ration of certain specified characteristics. This bulletin, now almost out of print, has been in constant demand by students of various agricultural colleges since it was issued. Previous to its appearance several writers had declared that such a calculation was a mathematical impossibility.

"Other bulletins by Doctor Willard have treated of fertilizers and feeding stuffs, milling tests of wheat, baking tests of flour, and additional experiments in respect to the digestibility and nutritive value of prairie hay and alfalfa.

"Doctor Willard is a life member of the Kansas Academy of Science, a fellow of the American Association for the Advancement of Science, and a member of the American Chemical Society and of several other scientific societies. He is ex-officio chemist of the State Board of Agriculture and the State Board of Health, and has done a large amount of highly responsible chemical work in both capacities. In the summer of 1906 Doctor Willard visited central Europe in behalf of the experiment station. He is an untiring worker in the laboratory, an effective teacher, and a valuable counselor in the business meetings of the faculty. No one of the teachers of the college has contributed more toward a logical development of its courses of study, and no one has done more valuable experimental work for the agricultural interests of the state than Doctor Willard."

"THE ROOT OF ALL EVIL."

Said John Mabray, swindler, as the prison gates closed behind him, two years ago: "I have only one regret now: That the men who tried to beat my game are not in here with me. They were just as crooked. They had graft in their white hearts when they fell for it—'respectable business men and church members' and 'honest farmers' and 'worthy capitalists' willing to sneak a few thousands if no one caught them. I'd be glad to serve an extra two years to have some of them here with me."

They were Mabray's only hard words. When he entered the prison his record was written in a big book by a gray-haired man who had been a banker in an eastern city, a sad-faced man whose eyes were dull. The magazine and newspaper the warden let him have were handed him by an aged man, weak under the burden of years and remorse—another ex-banker. His picture was taken by a man who had defrauded friends and associates in his home town, also a banker. A friend gained permission to shake hands with him to say good-bye.

"You see?" the repentant swindler said. "It was money that got them all."

The News & New Books

If one would appreciate the variety of field crops grown in the South, he may profitably read John Frederick Douglass's volume entitled, "Southern Field Crops." The book is intended both as a college textbook and as a book for general reading and reference. Among the leading crops discussed are oats, wheat, rye, barley, corn, rice, the sorghums, cotton, hemp, sweet potatoes, cassava, peanuts, sugar cane, and tobacco. Complete laboratory exercises, bibliographies and glossaries add to the working and reference value of the book. The volume is one in the series of rural textbooks published by the Macmillan Company, and edited by Prof. L. H. Bailey. Price, \$1.75.

The need of a practical book on this subject is evident when one considers that, as the author says, "Nearly six-tenths of the earth's land surface receives an annual rainfall of less than twenty inches and can be reclaimed for agricultural purposes only by irrigation and dry farming." Irriga-

L. W. Ellis and Edward A. Rumley. "Back of the motor contest and giving it force is the call for the taming of the prairies, and, deeper than that, the call of increasing millions for an abundance of their daily bread." In the chapters following, the authors discuss the efficiency of the horse as a motor for plowing, the steam tractor, gas tractors, the early history of the plow, the principles of the plow, and rules for plowing. An interesting chapter discusses the use of the traction engine in dry farming. The final word is on the future of the traction engine. The book is copiously illustrated throughout with etchings and half tones, and contains specifications of leading gas tractors and helpful bibliographies of authorities on this subject. Doubleday, Page & Company, New York. Price, \$1.20.

So many boy books give the impression of unreality, of having been written by men who never were boys, and never felt a sympathetic thrill for a boy or his millions of worries and tragedies between the knee-pants age and the turning out of the eyebrow moustache. But no part of this criticism



Dr. J. T. Willard, Dean of Science.

tion will convert one-tenth of this into fertile areas, leaving about one-half of the earth's land surface to be reclaimed by dry farming. "Dry Farming," by John A. Widtsoe, president of the Utah Agricultural College, is a study of a system of agriculture for countries under a low rainfall. The book is based on the actual study of conditions of soil and climate in arid and semi-arid regions and upon practical demonstrations in

A Golden Text.

Blessed is everyone that feareth the Lord; that walketh in his ways. For thou shalt eat the labour of thine hands; happy shalt thou be, and it shall be well with thee. —Psalms 128: 1, 2.

dry farming as the result of years of experience. The general conclusion of the volume is that by the application of skill and intelligence the farmer may grow a crop even in the driest year, so that the dread of drouth may be eliminated. The volume contains bibliography, in part, of the literature of dry farming and the text of the Smoot-Mondell bill for homesteading on dry farm lands. The Macmillan Company, New York. Price, \$1.50.

"Reads like a novel" is the verdict of the general reader who reads the dramatic description of the Winnipeg motor plowing contest in the opening chapter of "Power and the Plow," by

applies to the 300 pages just issued by the Association Press, New York, "Boy Life and Self-Government." The book is by George Walter Fiske, professor of practical theology in Oberlin Theological Seminary, Oberlin College, Ohio. The writing was not done, evidently, to catch boys' attention, but rather to teach men and women things they ought to know upon a subject that is much misunderstood. It is an important question, admirably handled and interestingly presented. Professor Fiske's book may be used as a text. The Association Press, New York. Price, 75 cents.

When a half-million or more high school boys of the United States settle down to their morning's lessons, at 9 o'clock, about four million wage-earning boys have been at work for one to three hours. If every boy less than 18 years old were, in a twinkling, taken from work, almost every important industry and business in the country would be seriously handicapped, and in many cases paralyzed. These facts escape the everyday, ordinary mortals. It would be a fine thing if every employer would read "The Wage-Earning Boy," written by Clarence C. Robinson, secretary boys' department, international committee of the Y. M. C. A., in New York. The book contains only a hundred pages, but in this space there is much valuable information. The Association Press, New York. Price, 25 cents.

Some girls are very angry if a man looks at them on the street. Others are angry if he doesn't.

Wander-Thirst.

"Beyond the East the sunrise, beyond the West the sea, And East and West the wander-thirst that will not let me be, It works in me like madness, dear, to bid me say good-bye; For the seas call and the stars call, and oh! the call of the sky."

"I know not where the white road runs, nor what the blue hills are, But a man can have the Sun for friend, and for his guide a star; And there's no end of voyaging when once the voice is heard. For the river calls and the road calls, and oh! the call of a bird."

"Yonder the long horizon lies, and there by night and day The old ships draw to home again, the young ships sail away; And come I may, but go I must, and if men ask you why, You may put the blame on the stars and the Sun and the white road and the sky!"

SUNFLOWERS.

About the worst we have yet seen is "Pungent Points on Parcels Post."

Some women make themselves haggard by believing they are growing old too quickly.

It doesn't take much of a man to punch a statesman's jaw. Courage is required when you try to shut it.

Our good friend, the *Kansan*, says three hundred and fifty editors "Subscribed" to the banquet. In advance?

Ninety-nine per cent of the joy in this world is made by good girls and good women. But why don't they shine their shoes?

We notice, with keen regret, that the Editorial Association, in session at Lawrence, was "Presented with" the best of Kansas weathers. This for Class I.

"Which would you rather be—honest now—the mother of three or four rosy-cheeked children, or a petted society doll in love with a cat or a pup? Take your time in answering.

"A good mattress," says Brother Graham, in a flight of fancy, "brings refreshment; a poor one, fatigue, and the face shows it." And some faces look as if they'd been slept upon.

One of the speakers at the editorial banquet, Monday night, said, "When a story breaks in the editorial rooms of many newspapers—" No story ever breaks there, son. Try again.

Woodrow Wilson need worry no more about the presidency. The American students at Oxford University—sixty-six of them—have named him as their choice to succeed Mr. Taft.

Dean Willard, who was fifty years old last Tuesday—and looks thirty—might give some interesting testimony as to the receptivity of the average rural community of things scientific. He knows, if anyone knows.

When you see, and hear, a really rousing cheer leader, an all 'round router for the home team, you have a good chance to try out your sporting blood by betting on his class standing. You can play this either way.

The attention of the class is directed, for a moment, to the fact that at the "Hutchings-Zeller" wedding, last week, the bride entered "on the arm of her father," and the "groom was dressed in the conventional black."

Imagine the job Mr. Blakesley, of *The Star*, has on hand: He has asked for anecdotes, stories of what the children say, etc. Watch that column grow! Also watch the crime columns for violence by the inventor of the cinder beetle.

Have you ever tried to put in a new typewriter ribbon without touching it with your fingers? Try it, with the wonderful device supplied by the Smith-Premier people, and write us about it. That is, if you think you can stay within the postal laws.

We have offered to give fifty cents to any charity *The Star* may name if we can't show that our books contain more names than *The Star's*, provided we are left alone, over night, with the city directory. Put up or shut up. We hate to keep up this quarrel, but we'd like to see *The Star's* books.

The Editorial Association's annual meeting, this year, did one big, fine job: It gave the *Kansan* a chance to use Billy Morgan's picture, and this disclosed the meaning of the "Y" as a middle initial. Yost is the name. A man of that name established a large business in pies, in Kansas City.

AUTO PLOWS ARE FAST.

LARGE TRACTS CAN BE TURNED IN A FEW HOURS—FOR ECONOMY.

But Power Plowing Hasn't Become Practicable for Small Fields—New Style of Auto-Plow May Answer That Requirement.

If you have a section of good, tillable prairie land, and money enough to make two-thirds payment on a traction plowing outfit costing \$1800 to \$2400, it will pay to make the investment.

The cost of plowing by the acre for either horse or traction power varies from less than a dollar an acre to more than \$1.50. The tractor can be used for subsequent tillage purposes. The average life of a tractor of any standard make is 1000 days—working days.

It is true that horse-power equipment represents an investment of about 50 cents to the acre, while traction plowing equipment represents an annual investment of a dollar an acre, according to the size of the plow. The great advantage in traction plowing is the convenience of getting a large amount of work done at the right time.

Auto-plows that have reached the market stage of development are designed for work in very small fields and for turning in small quarters. The principle of development of these tractors is the sacrificing of weight and durability for efficiency and economy.

Just now it is a question which is the more economical of either, this type of tractor or the horse for plowing and breaking. At present, horse-power plowing is less expensive in first cost and is more economical in maintenance. Until this type of tractor reaches a higher stage of development, their use in small 10- and 20-acre tracts is not yet justifiable if plenty of horse power is available.

ALUMNI NOTES.

Miss Nell Hickok, '11, spent Easter with her sister, Mary, in Manhattan.

Miss Reva Cree, '10, spent Easter at her home in Manhattan. She is teaching at Hartford, Kan.

Announcements have been received of the marriage of Ole J. Olsen, '07, and Clara Knudsen, of Everest, Kan. They will be at home, after May 1, at Horton, Kan.

To the Alumni and Former Students Resident In and Near Kansas City, Mo.: Fourteen of us met at 12:30 to-day, April 6, and gave a dinner which we propose to make a monthly affair. It was determined that we should meet at 12:15 p. m. on the first Saturday of every month. For the present we are decided upon the Y. W. C. A. You are requested to take note of this, and write, or advise by phone, Secy. Horace G. Pope, if you expect to meet with us on May 4. Address Mr. Pope at 3510 East Tenth or use home phone East 653.

These monthly meetings are not designed to eliminate our March annual reunion or our September picnic. We hope by these frequent gatherings to add to the fellowship and loyalty of all concerned, to the end that we may the more show our mother that, as we grow in age, we grow, likewise, in efficiency and helpfulness.

And, too, we just want to show the other boys and girls over in Chicago and Washington and other minor associations that the Kansas City "Kids" propose to continue progressive. Standpatters are out of date!

This is a suitable occasion to pay tribute to that remarkable class of 1893, for out of it came Will E. Smith, who originated the branch alumni association idea, and now Dr. G. W. Smith initiates the movement for "monthly dinners." The Smith Manufacturing Co. is all right.

H. C. RUSHMORE, '79.

To The Kansas Industrialist:

I have been getting THE INDUSTRIALISTS forwarded from Berlin. That is rather a roundabout way for it to

travel, so think I had better notify you of my return to the United States. I came back early in February and since have been very busy teaching in this new agricultural high school.

I spent a very interesting six months with German friends in Berlin. I matriculated in the University of Berlin and heard lectures in botany, biology, and literature. I heard the famous botanist, Professor Haberlandt, lecture and studied in his laboratory awhile. I also studied in the agricultural high school with Professor Bauer, and Professor Clausen, of the University of Berlin. I found Berlin most interesting and would like to have spent another year there studying, and enjoying the lovely parks and gardens and the charming suburbs.

Americans need to follow Germany's example of thoroughness and industry in the secondary schools. Our American children and youth do not do the earnest, careful studying that the young Germans do in the primary and secondary schools.

Our university and college students are more courteous and pleasant to meet, either socially or in the halls and class rooms. Our university students study as well or better, though they average younger and less mature. American women students are far more attractive and feminine than the German women students. Our professors usually are more keen and interesting in the presentation of their subjects. Respectfully,

MINNIE REED, '86.

916 New Hampshire Ave.,
Los Angeles, Cal.

SEED CORN TESTED LOW.

Kansas, with 66 Samples, Made an Average of 82 Per Cent Germination.

One of the most important questions to be answered by every one who is going to plant corn this spring is whether or not his seed corn germinates well. As a result of a dry summer and a wet fall, corn did not mature normally over a large part of the corn belt, and much of the seed does not germinate well. In reply to a request sent to representative farmers, under the direction of Secretary Wilson of the United States Department of Agriculture, 1708 samples of corn intended for seed this spring have been tested by the seed laboratory of the department and they show an average germination of 81 per cent. Sixty-six samples sent to Washington from Kansas showed an average germination of 82 per cent. North Dakota, with 56.8 per cent, had the lowest germination of any state. North Dakota sent in only 19 samples. Here are figures for the states that participated in the test:

STATE.	No. of Samples.	Lowest Germination %	Average Germination %
Virginia.....	113	5	90.3
Kentucky.....	69	26	89.8
Missouri.....	151	2	88.7
Maryland.....	41	30	87.1
Iowa.....	141	20	85.4
Pennsylvania.....	144	0	84.2
West Virginia.....	55	8	82.5
Kansas.....	66	0	82.0
Ohio.....	189	10	80.7
Illinois.....	175	0	79.8
Indiana.....	108	0	79.0
Minnesota.....	106	0	78.1
Michigan.....	88	1	75.0
Wisconsin.....	88	0	73.9
Nebraska.....	100	30	73.1
South Dakota.....	57	1	64.6
North Dakota.....	19	0	56.8

The low average germination for many of the larger corn states shows how serious the condition is, many of the samples being practically worthless for seed purposes.

Non-Rolling Spool.

After wishing for years that some one would invent a non-rolling spool, so that I could sit down in comfort on the porch with my sewing and not be jumping up every few minutes to reach under tables or chairs for the spool of thread, I've fixed it for myself, temporarily, till the invention is ready, says a contributor to *Good Housekeeping*. I paste a square bit of cardboard to one or both ends of my spool, and there you are! When it falls, it "stops where it is at," and is a real comfort.

Judging by the facsimiles in *The Star*, Wednesday night, the office still has the usual bunch of punk Spencerians. Why break the typewriting rule?

YOUR CLOSET IN ORDER?

A FEW TIMELY SUGGESTIONS ABOUT THINGS YOU MAY EASILY NEGLECT.

If Two Persons Must Use the Hooks, Which Would be Unfortunate, Make a Division and Live Up to It.

Neatness and cleanliness are much emphasized in the home economics department at the Kansas State Agricultural College. This neatness and cleanliness should not stop short at the clothes closet. Keep it as neat, clean and free from odors as any of the other more conspicuous rooms in the house. Have a place for everything and put everything back in its place after use. This sounds trite and hackneyed, but don't let that keep you from using it as good advice.

If two persons use the hooks, assign half of them to each. Garments not often used should be packed away in trunks, drawers or storeroom, and thus the closet will not become unnecessarily crowded.

The threshold of the closet door should fit tightly, so no dust can sift under the door when the adjoining room is being swept. The clothes closet should be thoroughly cleaned several times a year. The floor should be swept at least once a week and should be washed about once a month to keep down the dust.

To be sanitary, a clothes closet should have a window to provide a good circulation of air and admit sunlight. During the day the closet door should be left open to admit all air possible. No soiled clothing should be kept in a clothes closet, and any unwashable garments should at times be removed and thoroughly aired.

TO SERVE ORANGES RIGHT.

Cut in Halves and Remove the Pulp; Then There's no Danger.

Have you ever tried to eat an orange cut in halves when the pulp has not been loosened from the peel? Ever notice how the juice squirts into your eyes, on your cravat, or into your neighbor's ear?

The cook tells you she can get oranges when she cannot get any other fruit, and that she doesn't know of any better way to serve them. This shows that the cook doesn't understand her business. She probably believes herself allied with the undertakers.

If the "cook lady" wants to serve oranges in the peel, the fruit should be cut in halves, crosswise, and the pulp taken out carefully and put lightly into the shells again.

The orange might be peeled, divided according to its natural divisions and placed on a plate forming a circle around a tablespoonful of powdered sugar. They can be eaten with the fingers when they are served this way.

Bananas and English walnuts make a delicious salpicon for the first course, or if served with salad dressing or whipped cream make a good salad or dessert. Pineapple can be used instead of bananas.

Orange baskets make an attractive serving for oranges. To make these, cut two pieces from each orange, leaving what remains in the shape of a basket with a handle; remove pulp from baskets and pieces, and keep baskets in ice water until ready to fill. From orange juice make orange jelly with which to fill baskets.

TOWELS FOR CURTAINS.

Coarse, Russian Linen is an Excellent Material Very Often Overlooked.

Coarse Russian linen, sold for kitchen towels, is constantly overlooked in buying curtains. Its decorative possibilities are endless. The gray in which it is made is a suitable color for bedrooms when a quiet groundwork is needed for stencil treatment or darning. This material is only fifteen inches wide, but the joining of the widths lends itself to decorative needlework, and a hinged effect in stitching gives it individuality. Expensive lace curtains in large designs always seem out of harmony

in the modern house. Slight, gauzy effects at the windows to soften the light, and yet sufficiently transparent not to exclude the view, are better. They can be bought with simple edging, or an insertion of torchon lace, in soft, creamy tones, and seem suitable for all occasions. For libraries and halls, the Arabian color is often preferred. Bobbinet also makes a pleasing curtain. The large, open mesh does not keep out the light.

Stenciled curtains for any room or scheme have endless possibilities for the artist. A good dye is the best pigment, and when the color has been set will stand frequent washings and sunlight. By stenciling your own curtains you can obtain the tone of color and design desired to harmonize with the color and design used in the room.

It should be the purpose to endeavor to get away from the commonplace. It is not practicable or possible for many to make their own furniture or weave their rugs, but it is possible for every home to express the individuality of the owner in the choice of beautiful and original hangings.

CUT OUT THE BORERS.

Your Peach and Plum Trees Will Suffer If You Don't.

Take a look at your peach and plum trees and see if there are any signs of peach-tree borers. A fine wood dust at the base of the trees is the sign. If it's there it's time for you to combat one of the most destructive orchard pests.

The borer works beneath the bark and wood at the base of the tree. It is the larva of a wasp-like moth, which flies during the day time from the middle of June to the middle of September, and lays its eggs on the bark at the base of the trunk. In a few days the little grub or worm hatches from the egg and eats its way through the bark to the soft inner layer, where it feeds and lives during the fall, winter, and spring. In June and midsummer they become dormant and transform into moths.

When the borers are once under the bark the best thing to do is to remove them with a sharp knife blade or pointed wire, say the horticulturists at the Kansas Agricultural College. It doesn't injure the tree to cut the bark with lengthwise slits, but cutting should never be crosswise. Fall and early spring are the best times for removing the borers.

The best way to fight the destructive peach-tree borer is to prevent their entering the tree by coating the bark with a solution of boiled lime and sulphur. This coating is made by boiling together, for an hour, one pound of quick lime, with two pounds of sulphur, and from one to three gallons of water. This should be diluted to about four or five gallons. Then paint, wash or spray it on the trunks of the trees near the base.

Make this application after the borers in the trees have been killed. It will prevent the moths from laying eggs there for some time. This treatment is good for plum trees as well as peaches.

Insect Injury to Peanuts.

It has been estimated that the peanut industry in the United States, for 1910, amounted to 15 million dollars. About 20 per cent of the peanuts grown are injured by insects, an annual loss of 3 million dollars. Under the direction of Secretary Wilson, experts in stored-product insect investigations of the Bureau of Entomology are studying this problem.

Corn Meal Griddle Cakes.

This recipe will require two cupfuls of corn meal, one cupful of flour, one teaspoonful of salt, one tablespoonful of molasses, two tablespoonfuls of baking powder. Add milk or milk and water to mix to a thin batter. Bake on a hot griddle until a light brown on both sides.

Someone said Charity covers a multitude of sins. They neglected to add that Malice uncovers a lot, too.

BEWARE THE CUTWORM

IT TAKES QUICK ACTION TO SAVE YOUR TOMATOES.

Poisoned Bait, Put About the Plants Late in the Afternoons, Will Kill this Pest—How to Make the Dope.

Tomatoes, cabbage, sweet potatoes, and other vegetables and garden plants, especially those which are started under glass and transplanted, are subject to serious injury by cutworms. They appear sometimes in great numbers in spring and early summer and frequently do severe injury before their ravages are noticed. The method of attack is to cut off the young plants at about the surface of the ground, and as these insects are of large size and voracious feeders, they are capable of destroying many plants in a single night, frequently more than they can devour.

FOR A FEW PLANTS.

During the past two years these insects, working generally throughout the United States, destroyed hundreds of thousands of dollars' worth of crops. By the timely application of remedies, however, these insects can be controlled. Poisoned baits usually are successful. If you have only a few plants in your back-yard garden, of course you will not need elaborate protection. Young tomatoes, cabbages and other transplanted things, set into the ground in a handful of the earth in which they grew, wrapped about in newspaper or a piece of thin cardboard, will not be bothered by cutworms. The paper should be about three inches long—into the ground. The worm will not go through it. Experience at the Kansas Agricultural College has shown that this bait will account for many of the worms:

HERE'S THE RECIPE.

Take a bushel of dry bran, add one pound of arsenic or Paris green, and mix it thoroughly into a mash with eight gallons of water, in which has been stirred half a gallon of sorghum, or other cheap molasses. After the mash has stood several hours, scatter it in lumps of about the size of a marble over the fields where injury is beginning to appear and about the bases of the plants set out. Apply late in the day so as to place the poison about the plants over night, which is the time when the cutworms are active. Apply a second time if necessary.

When cutworms occur in unusual abundance, which happens locally, and sometimes generally, in some seasons, they exhaust their food supply and are driven to migrate to other fields. This they do, literally, in armies, assuming what is called the army-worm habit. At such times it is necessary to treat them as army worms. While the methods which have been advised are valuable in such cases, these remedies may be too slow to destroy all the cutworms, and other methods must be used. These include trenching, ditching, the plowing of deep furrows in advance of the traveling cutworms to trap them, and the dragging of logs or brush through the furrows.

THIS GETS THEM.

If the trenches can be filled with water, the addition of a small quantity of kerosene so as to form a thin scum on the surface will prove fatal. In extreme cases, barriers of fence boards are erected and the tops smeared with tar or other sticky substances to stop the cutworms as they attempt to crawl over.

Clean cultural methods and rotation of crops are advisable, as also fall plowing and disking. Many cutworms can be destroyed where it is possible to overflow the fields. This is particularly applicable where irrigation is practiced.

"I have a trade-last for your husband," said a kind person a few days ago. "Mrs. Blink said he was the best-natured man she'd ever met." "Where did she meet him?" inquired the wife. "Away from home?"

BE GOOD TO THE HORSES.

WORKING ANIMALS WILL RETURN LABOR FOR FAVORS.

Careful Handling and Feeding Necessary to Keep a Team in the Best Condition—Quit the Field Before Dark.

Farm horses, as a rule, are seldom given a square deal. They will labor for their owners ten to twelve hours, six days in the week, and feel amply repaid if given a good meal and plenty of cool, refreshing water.

The owners, on the other hand, usually consider themselves overworked if they have to throw the harness on the team, dump a little manure out the barn window, and "hitch up." And to furnish the old "Bill an' Tom" pair a bracing feed, give them a good currying, or a bed of straw is extravagance! It is done for fast trotting stock and pet stallions; why not for the work horses?

"CONDITION" THE HORSES.

The horses that do the heavy work about the farm should be "conditioned." It is as necessary for them as for other stock, and more so. The farm horse—the plow-puller and the hog-hauler—has a hearty appetite, a vigorous digestion, and responds, as does no other animal, to intelligent care. To "condition" horses does not mean that they must be put on a training table. Start a regular, business-like method of feeding, watering, handling and caring for them.

A bushel of corn or oats for one meal and a pint another time has a bad effect upon a horse's wind, digestion, and working ability. Give the preparation of the farm horses' feed much attention. Two pounds of provender daily to every hundred pounds the horse weighs is a good plan. Always grind the grain, and, as most hay usually is dusty, sprinkle it with water. If the horses' work is very hard, decrease the hay and increase the grain. Place four or five egg-sized lumps of rock salt in the feed box. These, the horses like to lick, and they also prevent hasty eating.

THE "MORNING'S MORNING."

Give the horses a long, full drink of water the first thing in the morning. Then place one-third of the day's grain and one-fourth the hay ration before them, at least an hour before starting to work. Throw in the manger just a small amount of hay.

While the horse is eating its grain, vigorously apply, for just about five minutes, a heavy brush. While the breakfast in the farmhouse is keeping you busy the horse will have eaten all the hay. Then throw on the harness and give the animals another chance at the water tank or creek. Good work will be done until noon by a team so cared for.

Give the animals a hurried rub-down as they take a short drink. Supply another one-third of the grain and the hay ration, and let an hour, at least, pass by while you, and your labor brutes, rest. Another cooling drink before you start encourages the horses to do their best in the afternoon.

Quit work before the sun is lost. If you don't, sooner or later this practice of working in the dark will impair both you and the farm horses. Pull off the harness, letting the horses take only a little water. Feed them the remaining one-third of the grain ration and one-half the day's hay allowance.

If it is summer time, clean the horses after supper, then turn them into a corral or pasture and they will add the finishing touches to the work of currying and brushing. During the winter fill the manger full of slightly moist hay at night, "fork" them a comfortable straw bed, and contented, healthy animals will result.

Whipping a Trust.

In the current issue of *Farm and Fireside* is begun a new series of articles entitled "How We Whipped Them," the story of the rebellion of the farmers of the Middle West against the grain, coal and lumber trusts. The author of the series is Edward G. Dunn, of Mason City, Iowa, secretary

of the Farmers' Grain Dealers Association of Iowa. It is the story of how the farmers are combining in the Middle West to get hold of farmers' elevators through which to sell their grain. Since the beginning of the farmers' elevator movement in Iowa, nine years ago, 337 farmers' elevators have been built in Iowa and 2500 farmers' elevators in the grain belt states of Indiana, Illinois, Iowa, North and South Dakota, Kansas, Nebraska, and Montana.

MILLIONS LOST IN MANURE.

Bad Management Responsible for Annual Waste of \$750,900,000.

The full value of manure seldom is realized. It is only within recent years that the average farmer in Kansas has taken any serious thought regarding it, except as to the problem of removing it so that he did not have to move the barn. It is estimated that in the United States there are 19½ million horses and mules, 61 million cattle, 47 million hogs, and 51½ million sheep. Experiments show that if the manure of these animals was saved to a reasonable degree, the approximate value of the fertilizing constituents would be, annually, \$27 for every horse, \$20 for every head of cattle, \$8 for every hog, and \$2 for every sheep. The total value of this live stock is \$2,225,700,000.

These estimates are based on prices paid for the common elements of fertilizers: phosphoric acid, potash, and nitrogen. No account is taken of the physical effect on the land, which is a most important result of manuring. At least one-third the value of this manure is lost. At this figure the annual loss to the United States is \$750,900,000. Practically all of this loss could be prevented, according to experts at the Kansas Agricultural College.

There is a great variation in the quality of different manures, the value of the manure varying with the feed, the kind of animal, the age of animal, and the kind and amount of absorbents used. Since about 80 per cent of the plant food is recovered in the manure, it is evident that what may seem like expensive feed is cheap in reality, provided the feed is fed on the farm and the manure carefully saved and applied to the soil. The food constituent which is most expensive and scarcest is nitrogen. This is well known to farmers who buy cottonseed meal, or linseed meal. If the manure from this rich nitrogenous food is kept, the farmer is constantly increasing the fertility of his farm.

Suppose a dairy farmer has 50 head of cows. What would be the value of the manure produced by them in one year? Here are the contents:

FERTILIZING CONSTITUENTS OF THE MANURE.			
	Nitrogen, lbs.	Phosphoric acid, lbs.	Potash, lbs.
In excrement.....	8958.47	3843.50	7982.77
In bedding.....	742.61	430.22	874.28
Totals.....	9701.08	4273.72	8857.05

Counting these elements at the present prices, nitrogen at 15 cents a pound and five cents a pound each for potash and phosphoric acid, the values would be as follows:

Value of nitrogen.....	\$1455.18
Value of phosphoric acid.....	191.19
Value of potash.....	447.85

Total value of manure.....\$2094.22

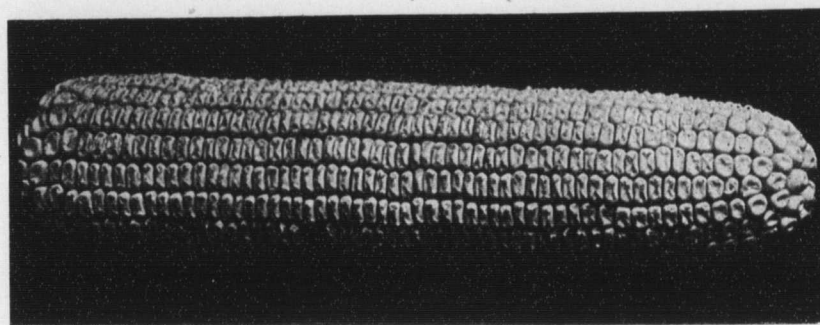
It would be well to remember, then, that you can soon buy another farm with the manure, if it is properly cared for. Many farmers are wasting manure and at the same time buying commercial fertilizers. It is about as reasonable to do this as to sell pork for six cents a pound and buy it back from the packers for 35 cents.

Bear in mind that over one-half the value of manure is in the liquid portion. Hence the importance of ample bedding, of the proper quality.

The figures for calculating the value of the manure from dairy cows which are mentioned are based on a ration for a cow weighing 1000 pounds and giving 15 pounds of milk. The ration consists of 10 pounds of a mixture of one-third each of corn meal, ground oats, and bran; 35 pounds of corn silage; 15 pounds of clover or alfalfa. This is a good ration and one conforming closely to the best feeding standards.

It's Time to Talk About

Contests for the Boys and Girls



The Boys' Corn-Growing Contest

AN ACRE-YIELD HONOR ROLL
A FIVE-ACRE-YIELD CONTEST

The Bankers and the Commercial Clubs of the State are helping. Several Banks already have agreed to send boys—one or two—to the State Farmers' Institute at the Agricultural College next December. This influence, with that of the local institutes, should spur the boys to big things, this summer.

Four Sets of Prizes

The usual classes, a Special, and the Extra Inducements for Big Yields. You might get a trip to the State Institute, next December, when the Corn Show is on. Four days of corn and stock judging. Four days of helpful talks. Think it over, Boys.

The general contest will be limited to boys between ten and twenty-one; Class B, boys from ten to fifteen, and Class A, boys from fifteen to twenty-one. Boys who will be fifteen years old by July 1, 1912, may be admitted into Class A.

Can you produce 75 bushels an acre?

Can you produce 60 or 40 bushels?

Every active Kansas boy ought to win under one of these classifications.

Potato-Growing Contest

A plot about 50 x 50 is suggested for this work; variety planted to be left to contestants. Method used to be recorded for use, later. Prizes are recommended for the best ten potatoes, and for the largest yield. KANSAS NEEDS MORE POTATOES. GROW THEM.

The Program for 1912 is Ready

Nothing so attractive ever has been prepared. The small towns and communities have missed many fine chances for interesting, healthful and profitable work, in past years. THE STATE AGRICULTURAL COLLEGE hopes to change these conditions. It wants every girl in Kansas to enter the

Girls' Garden and Home Contests

Tomato-Growing Clubs. Flower Garden Contests. Butter-Making Contests. Family Garden Contests. Bread-Making Contests. Mending and Sewing. Fruit and Vegetable Canning. Jelly-Making Contests.

Contests for Girls IN TOMATO GROWING Easy, Interesting Work

One rod square is enough for 16, 20 or 25 plants.

The girls must do the work after the first plowing.

Address, for further information,

Director of College Extension, Box 31

Kansas State Agricultural College, or Your Institute Officers

MORE POTASH IN SIGHT.

Eastern States, the Geological Survey Reports, Have this Valuable Element.

The great interest in the problem of finding potash in available form in the United States, and the demand for the government's publications on the subject, have necessitated the reprinting of a short report by the United States Geological Survey on the occurrence of potash salts in the brines and bitters of the eastern states. The report (Bulletin 530-B) is the result of field work by W. C. Phalen during the last season, including a

study of a largenumber of salt deposits and mines in the eastern states.

The Bureau of Soils of the Department of Agriculture has cooperated with the survey in making analyses of the brines, and some of the results show considerable percentages of potash. The investigation is considered of importance, it is said, because deposits of potash are likely to be found in conjunction with those of salt. The great German potash deposits were discovered by accident, the Germans being in fact drilling to develop a supply of common salt, and the potash salts as brought to the surface

were for a considerable time thrown away as worthless.

Rice Griddle Cakes.

Two cupfuls of cold, boiled rice, one pint of flour, one teaspoonful of sugar, one teaspoonful of salt, 1½ teaspoonfuls of baking powder, one egg, and one pint of milk. Sift together flour, sugar, salt, and baking powder, add the rice free from lumps, diluted with beaten egg and milk, and mix into a smooth batter. Have a griddle well heated and bake a nice brown.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, April 20, 1912

Number 26

INTO THE GARDEN, MAUD.

WONDERFUL THINGS CAN BE DONE IF YOUR ARTISTIC SENSE IS ALIVE.

Of Course You Must Have a Little Time to Spare if the Flowers Are to Show at Their Best.

A girl with plenty of time in which to care for a flower garden will want many different varieties, but when her time is limited, as it usually is, one flower bed, carefully attended, will be more satisfactory.

A large, round flower bed could be planned with several kinds of plants to provide a color scheme, and also for variety. Such a bed would be about ten feet in diameter, and would have the tallest plants in the center, with the others placed so as to give a downward slope toward the outer edge.

CASTOR BEANS OR CANNAS.

For the center, use castor beans or cannas. The King Humbert canna is the best to use. It has flowers of an orange scarlet color. Outside of these plant a row of caladiums or elephant ears. Leave a space of one foot for these. In the next space of one foot plant two rows of salvia, and in the next, one of coleus. For the outside border, use the lobelia, making a six-inch border.

The brilliant red of the flowers of the salvia adds a bright touch of color to the general appearance of the bed, making a good contrast with the yellow foliage of the coleus. The little bright blue flowers of the lobelia and its dark green leaves give a most attractive border.

A CHOICE OF COLORS.

All of these plants should be got from the greenhouse for planting. If castor beans are to be used they must be started from the seed.

Such a bed as described would beautify any yard, and at the same time allow for variation in the choice of plants and colors of flowers. Any girl could plant this flower bed, and it would not require much of her time for its care.

WHERE ALL THE BEETS GO.

Seven Million Tons of Sugar Are Made Annually from this Vegetable.

Approximately seven million tons of beet sugar are produced in the world annually. Of this amount the United States grows about one-fourteenth, or 500,000 tons. The leading sugar beet producing nations are: Germany, 2,500,000 tons; Austria-Hungary, 1,500,000 tons; France, 1,100,000 tons. The beet sugar is about one-half of the world's sugar supply.

In the United States Colorado leads with a production of 150,000 tons annually, followed by California, with 120,000 tons; Michigan, 107,000 tons; Utah, 68,000 tons; Idaho, 20,000 tons, and Wisconsin, 18,000 tons.

Other sugar beet producing states are Arizona, Illinois, Iowa, Kansas, Minnesota, Montana, Nebraska, New York, Ohio, Oregon, and Washington.

The sugar beet mills are located as follows: Colorado, 16; California, 18; Michigan, 17; Utah, 7; Idaho, 6; Wisconsin, 6; Nebraska, 2, and the remaining states one each.

GOLD IN THIS COAL.

Cambria, Wyo., Has a Mine That is More Than Usually Profitable.

An interesting feature about the coal mined at Cambria, Wyo., is that it is declared to be gold-bearing. Some of the coal has contained \$2 a ton in gold, and the coal was sold for only \$1.50 a ton. When coke made at Cambria was selling for \$3.50 a ton, samples were taken from 31 cars and assayed. The samples showed an av-

erage of \$2.46 a ton in gold and 28 cents in silver. The explanation offered for the presence of gold in this coal is that the sands which submerged the old peat bog and now form the roof of the coal bed were derived in part from gold-bearing alluvium. While the sand was being deposited the gold worked down into the underlying bog and is now found in the coal.

This is one of the interesting statements made in a report to be published in a few days by the U. S. Geological Survey. It is Bulletin 499, entitled "Coal near the Black Hills, Wyoming-South Dakota," by R. W. Stone.

THIS IS A PEACH YEAR.

But Northeastern Kansas Orchardists Will Miss a Crop, Says Holsinger.

A peculiar situation as to peaches exists in Kansas this spring. The central part of the state will have a full crop, according to present indications, while the northeastern section will have none. South of Fort Scott and westward the hardier varieties still show enough buds to make a crop in favored localities. An explanation of the unusual conditions is offered by C. V. Holsinger, horticulturist with the extension department of the agricultural college.

"The favored peach section this year," Mr. Holsinger said, recently, "will be a belt beginning in the central part of the state, extending east to Topeka and north to the Nebraska line. In some parts of that belt 90 per cent of the bloom buds went through the winter. Ordinarily, if five per cent of the bloom survives the winter a full crop result. This high percentage of good buds means a big crop of peaches in this part of the state unless something happens later."

"But the northeastern part of Kansas will have no peaches. I have a report from a representative of the state entomological commission who visited 80 orchards up there and found no live buds. I account for that in this way: Last October was wet in that section and the trees were full of sap when the first freeze came. That killed the buds. In the central belt the fall was dry and the trees went into winter quarters in good shape. The buds were dry and withstood the cold. Elbertas and Crawford's will not be so plentiful as the hardier varieties."

"THE RIVALS," TO BE PRESENTED

An Old Favorite Has Been Chosen by the Dramatic Club—Rehearsing Now.

The Dramatic Club is to present "The Rivals," Sheridan's old play, probably the last work of this month. Miss Wilma Kammeyer is to have the part of Lydia Languish, and Floyd B. Nichols that of Captain Jack Absolute. Other members of the caste chosen are: Aline Carr, Lucile Berry, Lynne Hilsabeck, E. O. Graper, Roy I. Davis, Louis Hutto, E. A. Vaughn, Louis Williams, and William Hayes. E. P. Johnston, professor of public speaking, is the coach.

Professor Price a Judge.

Prof. Ralph R. Price, department of history and civics, went to Topeka, yesterday, as a judge in the inter-collegiate debate between Washburn College and Ottawa University. The question discussed was "That Congress should establish an educational test for immigrants."

Missouri First in Lead.

Missouri held first place in the production of lead in 1911, with an output of 182,207 short tons. The state also made the greatest increase for the year, the gain over 1910 being 20,548 tons. Idaho, ranking second in production, with 117,159 tons, made also the second greatest gain, 17,235 tons.

HOSTS MADE, NOT BORN.

THE TABLE ETIQUETTE COURSE HAS 100 IN THE PROCESS NOW.

Junior Girls Are Serving Dainty Formal and Informal Dinners and Luncheons—Senior Men Learning to be Graceful Carvers.

A table etiquette course for men has found a permanent place in the curriculum of the Kansas Agricultural College. Tried out as a sort of experiment last spring, it proved one of the most popular and helpful courses in the whole school. One hundred young men, seniors, took the instruction then. Now, another more or less awkward one hundred are learning to be graceful hosts; to carve and serve dainty meals without getting stage fright.

NOT UNDERSTOOD, THEN.

As a departure from the staid teachings of colleges, the etiquette course in Kansas attracted much attention last year. It wasn't generally understood what the course proposed to do. Would it teach young men to serve

The Road Laws.

For the especial benefit of officers of Farmers' Institutes, and the newspapers of the state, THE KANSAS INDUSTRIALIST will print, from week to week, the more important sections of the Road Law of Kansas. You will find this material on the editorial page.

Read it; there may be things in it you don't know. If you are running a paper, run in a few sections of this Road Law. They will be short enough for everyone.

and eat everyday meals correctly, or would the instruction be for formal occasions, only? Was the agricultural college trying to make Lord Chesterfields of Kansas farm boys?

But visitors who saw the class in action were convinced that there were no frills about it. The meals were very daintily served, to be sure, and the service strictly correct, but the food was simple and wholesome and not beyond the means of any family. The right way to serve and the right way to eat were being taught young men and young women. There was no objection to that.

Junior girls in the school of domestic science cook and serve the meals. Luncheons and dinners, formal and informal, make up the five noon meals every week. Four persons sit at every table. One—a woman instructor—always is hostess. The three young men take turns playing host. They must carve and serve when necessary. The instructor teaches by example; whatever she does is right. Verbal instructions are given only when asked.

FOR \$4 A WEEK.

The girls work in small kitchens adjoining the big dining room in Domestic Science Hall—three to a kitchen. There's a kitchen for every table, too, which means that a different menu is being served at every table. The girls are allowed \$4 a week for the five meals. They must do their own planning and buying. A little book, "Table Etiquette and Service," issued by the department of domestic science, is the text used in the course.

ZOOLOGY, LAW, AND SEEDS.

The Science Club Had a Diversified Program Monday Night.

The Science Club heard three very interesting papers last Monday night. Dr. J. W. Scott of the department of entomology presented a paper en-

titled "Current Thought in Zoology." Prof. B. F. Eyer discussed in detail the Wisconsin public utilities law.

The third paper was presented by E. C. Miller of the department of botany. His subject was "Metabolism of Fats in Germinating Seeds." Professor Miller explained by drawings an elaborate system of growing plants in the absence of carbon dioxide. He also discussed in detail the oils found in various stages of different growing plants, as shown by experiments he has conducted in the last two years.

JOURNALISM FOR TEACHERS.

Ten Lectures in the Summer School that Ought to Make Clean Copy.

It is not believed that elementary agriculture will make a complete farmer; and it is not supposed that the man or woman who listens to ten lectures on industrial journalism will be ready to conduct properly the first newspaper that seems in need of a directing mind. But every editor knows that not ten per cent of the copy he receives is ready for the printer. To help in improving this copy it has been decided to offer the teachers, and others in the summer school, a "Short Course" in industrial journalism. Here is the program; it explains itself:

"First Essentials of Newspaper Writing." In this lecture the teachers will learn exactly how to prepare a "copy" so that it will receive attention in a newspaper office. Important rules.

"City and Farm Papers Contrasted." Here is taught the differences in news values; for it must be understood that what might receive a column in Salina would get only bare mention in Kansas City.

"Getting Up a Magazine Story." Some of the reasons for rejection. How to prepare the manuscript. Where to send a story. How much certain magazines pay.

"The Gathering of News, and its Writing." Some teachers make attractive additions to their incomes by doing this work.

"The Telegraph Editor's Work, and Others." Few persons know anything of the organization of a newspaper. Everyone should know of the machinery that sends an education, good or bad, into the home day after day.

"Newspaper History, and the Agricultural Press."

"Is it Libelous? Some Noted Cases."

"The Ethics of Newspapers."

"Do You Read the Editorials?"

"High School Beginnings in Journalism."

The summer school is to begin its activities June 13, and close July 25. The circular describing the courses to be given is being distributed.

SEED CORN 78 PER CENT.

Ninety-one Samples Just Tested Here Showed a Low Germination.

Ninety-one samples of seed corn, tested at the Kansas Agricultural College this week, showed an average germination of only 78 per cent. Twenty-nine of the samples came from Ottawa. These 29 averaged 73 per cent. Sixty-two samples were from Osawatimie and averaged 82 per cent. Good seed corn should give a germination of at least 95 per cent.

These samples were collected by the department of agronomy and tested in the department of botany, and are authoritative.

PUTTING UP FIRE ESCAPES.

The Auditorium is to Have Two Chutes of the Spiral Type.

Fire escapes are being put on the Auditorium. They are of the spiral type. All you have to do to escape the fire is to step into the chute, sit down, and slide to the ground. Only two of the escapes are being built, but provision for two more of another type probably will be made for the north end of the building.

Thank Goodness.

The cooking club at Zion gave a supper Tuesday night for their husbands and gentlemen friends. A general good time was the result.—*Waverly Gazette*.

MAN MUST REST A DAY.

BUT WHAT OF THE WIFE, BUSY WITH A "SUNDAY DINNER?"

This Big Feed Gives no Time for Rest and Makes the Family Sluggish, a Young Women Student Says.

Sunday is a day of rest for man and beast—not for women. The day of fasting and worship has become too often a day of feasting instead, and a "big dinner" is as much a part of Sunday as are the funny papers.

Of course it is very nice to find a hot chicken dinner with all the fixings waiting when you come home from church, but what if you had to spend all your Sunday morning cooking that dinner? And what if, instead of sitting down after dinner to read the paper or the latest magazine, you had to spend the greater part of the afternoon washing pots and pans and dishes? That doesn't sound quite so nice, does it, Mr. Man?

GOOD MEALS, TOO.

"Simpler meals for Sunday would even up matters," said a senior girl in the domestic science department of the Kansas Agricultural College, a few days ago. "That would give the entire family—servants as well—a time for rest and pleasure. And these meals need not be 'bad to take,' either. Most people eat too much, anyway. Might as well slow down Sundays and make those days easier and happier for everybody, especially the cook."

"Many kinds of meats," the young woman continued, "such as veal loaf, boiled ham, pressed chicken, and roast beef, are almost as good, sometimes even better, served cold as when hot. These could be prepared Saturday, ready for serving Sunday with a salad that is easily put together."

"Vegetables that require much time and trouble to prepare and cook should not have a place on the Sunday menu. Leave them for some other day when you'll have to be in the kitchen a long time anyway."

AS TO THE DESSERT.

"Instead of baking pie or pudding Sunday morning, have a cold dessert made the day before. Any cookbook gives a long list of dainty, delicious desserts of this sort from which you can choose."

"With the approach of hot weather, frozen desserts are especially acceptable and are not, as many persons seem to think, much trouble to make. The fruit juice for ices and sherbets can be got ready Saturday and kept in the ice box until next morning. Freezing the mixture is not nearly such a long, hot task as baking a pie. And while you're at it, it is no more trouble to make enough for supper, too. Fresh fruit is always an easy, tempting dessert."

"After the dinner is prepared, serve it simply, letting your motto be: 'Make one dish do where two did before.' You may not feel quite so stylish with such a Sunday dinner, but you'll have more time and strength to feel religious."

Harry Shuler Is Dead.

Harry Shuler, a recent graduate of the agricultural college, died in Kansas City, last Saturday, of acute tuberculosis. He had been taken there for treatment. Mr. Shuler, whose home is in Manhattan, finished his college course at the end of the winter term. He was an exceptionally bright student and made many friends. His body was brought to Manhattan for ceremonies at the Christian Science church, Sunday morning. Afterward the body was escorted to the Rock Island station by the cadet band and battalion. Burial was at Hutchinson, Kan., Mr. Shuler's former home.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, APRIL 20, 1912.

THE GRACE OF CIVILITY.

And if ye salute your brethren only, what do ye more than others?—Matthew, 5:47.

By a witty Kansan whose bright and keen sayings were hushed some years ago, to the sorrow of all whom they delighted when he talked and wrote—the lamented Noble L. Prentis—the Ohio river was described as “the point where conversation left off among passengers on east-bound trains.” This clever observation goes far to explain the warm affection which Noble Prentis felt for Kansas City. With him, conversation was a distinct accomplishment, and the atmosphere here was innocent of any element to “freeze the genial current of his soul.” The people of this fine western city are not afraid to talk to each other without the authority of an introduction. It is the sort of a place where it is wise, when one is in company, to look about carefully before expressing an opinion about persons present or absent. There are more people in Kansas City related to one another through the kinship and the conjugal ramifications of the “early settlers” and “old families” than it could enter into the heart of any newcomer to conceive. This situation probably has had much to do with the happy freedom with which persons who are not commissioned by the usual social formalities address each other. This sensible habit is noticeable especially in the outlying districts, where people take advantage of the pleasures of outdoor life.

A very large proportion of the inhabitants of Kansas City came here from country places, where it was the habit of people to know one another, and to exchange salutations, whether they could lay any claims to familiarity or not. We who were brought up near the soil can recall with a very distinct pleasure the cordial “good-days” that used to ring out from the occupants of big, clumsy farm wagons on country roads, or from rural pedestrians. It was an almost unheard-of thing for persons making such journeys to pass without a friendly salutation. And a happy custom it was, more honored by far in the observance than in the breach. It showed a sense of kindness and a prime quality of self-certainty that was well worthy of practice and preservation. —From a lay sermon by the late Alexander Butts, in *The Star*, February 27, 1910.

CLASSIFYING ROADS.

Section 18, Chapter 248, of the Session Laws of 1911, reads, in part, as follows:

“That the roads in every county in the state shall be classed according to their relative importance as state roads, county roads, mail route roads, and township roads. State roads shall be all roads laid out and defined by the state of Kansas. The county roads shall be all roads designated as such by the board of county commissioners of the county, who shall, as nearly as practicable, name as such county roads direct highways connecting cities and market centers, whether both such cities or centers are within the county or one is

within and the other without such county. Free delivery mail routes shall be known as mail routes, and all other public highways within a township are township roads. All county and state roads shall be maintained at the expense of the county and all mail routes and township roads, where they do not coincide with the county and state roads, at the expense of the township in which they are situated . . .”

The question has arisen: Is it mandatory on the part of the county boards to make this classification? The attorney general's opinion is:

“The county commissioners in performing their duties should in all matters exercise good faith, and it is very clear that this section requires them to designate certain county roads and requires them, as nearly as practicable, to name as such roads direct highways. In my opinion, this law requires the county commissioners to exercise good faith and good judgment and to perform fully their duty in this respect. When they leave out the public highways of their county which connect the market centers and designate only a portion of some one of such highways, they are only doing a portion of their duty and they are not excusable for such neglect. There is no reason why they should not be as liable for failure to act in this regard as their failure to act in any other respect where the law requires them to exercise their powers.”

STOCK JUDGING.

All of the boys, and the girls, also, for that matter, who enroll in one of the agricultural courses at the Kansas Agricultural College must take some stock judging. Not only must they study in the class room the types and breeds of live stock, but also they must go to the barns and pens and actually judge the animals.

What this means to the people of Kansas, as a whole, and to the farmers, in particular, cannot be estimated. Many of these boys come to school with a small knowledge of pure-bred stock. These boys will go back to the farms knowing why it pays to keep good horses, cows, hogs, or sheep. They will know how to choose the sound horse, the good feeding steer, the best breed of hogs, and the right class of sheep.

The college has many well-bred animals and should always have them. To be able to show stock typical of the various classes will do much to help the boys get the right idea of the kind of live stock they should own. L. T. P.

STACK THE WHEAT.

Most of the farmers of the state cut wheat with a binder, at least part of it. Few of these farmers thresh this wheat within one week after harvest. Every rain that comes while this wheat is in the shock costs the farmers thousands of dollars. This is waste. It can be avoided if the farmer will stack the wheat. The loss in quality is great when exposed to the rain and sun. If the wheat is stacked, less wheat is exposed.

That is not all. The farmer who stacks his bundles can plow the field sooner, and the farmer who plows his ground early will have more wheat the next year. The farmers should wake up to this fact while they are trying to get a larger yield. P.

WINDBREAKS.

Farmers in western Kansas need windbreaks. Several of them have awakened to the fact. The forestry department of the Kansas State Agricultural College has sold thousands of evergreen trees for this purpose. The evergreen tree will stand the hot climate well, and when a few years old becomes a good windbreak, because of the growth of limbs near the earth. These windbreaks are used to protect crops from the hot winds and to shut out the cold, north winds from the barn yards.

Welcome Home, Toots.

Miss Toots Grubb returned Sunday to her new home.—*Hammond Items*, Fort Scott Tribune.

The News of the New Books

Students of cooperation affecting the economic welfare of mankind should find much to interest them in Dr. Frederik Van Eeden's “Happy Humanity.” Here is a man wedded to an idea. That this idea failed in Holland has not discouraged him. He has organized a company, bought several thousand acres in North Carolina, and there, with efficient business management, the influence he lacked in his native land, Doctor Van Eeden believes he will, some day, realize his best ambition: To gather about him a great cooperative community that shall live in peace and happiness and prosperity.

Doctor Van Eeden is one of the foremost poets, playwrights and authors in Holland. Few men's writings have so stirred the people, and few men have been so loved or hated. It is doubtful whether there is a thing on earth in which he is not interested, or likely to be interested if the opportunity presents itself. His wide experience is shown in the first part of his latest book. It is, indeed, an autobiography. But it is the second section of his work, “The Plan for America,” that will chain the interest

problems on bearings and pivots, much stress being given to the step bearing.

The applications of analytical geometry and hyperbolic functions are illustrated by problems on the carrying capacity of belts, which include effective pull and the effect of centrifugal force. In this chapter the function of the plot in engineering is illustrated by several examples.

The last two chapters deal with the applications of calculus to the torsion of shafts and to the moment of inertia of flywheels. The problems include turning moments, as well as the relations existing between diameter and power transmitted by solid and hollow shafts. Mathematical illustrations are given of the fact that the cost of making a shaft increases with its diameter, especially in large sizes, and that weight is not the only factor which determines the cost of a shaft. A list of reference works on mathematics and machine design is given. The appendix consists of a discussion on what a senior in engineering should know about mathematics.

In general, the book is well written and should prove of considerable value in connection with a course in engineering mathematics after the students have had some training in

How to be Ready.



YOU KNOW how to be ready, a man must be able to cut a knot, for everything cannot be untied; he must know how to disengage what is essential from the detail in which it is enwrapped, for everything cannot be equally considered; in a word, he must be able to simplify his duties, his business, and his life. To know how to be ready is to know how to start.

It is the lack of order which makes us slaves; the confusion of to-day discounts the freedom of to-morrow.

—Henri-Frederic Amiel.

and excite discussion among the thoughtful. “Happy Humanity,” by Doctor Frederik Van Eeden; Doubleday, Page & Co., New York. Price, \$1.50.

To form a closer correlation between higher mathematics and engineering is the object of “Engineering Applications of Higher Mathematics,” by V. Karapetoff, the first volume of which has just been received. The author has selected a series of problems from machine design which show

the fundamentals of calculus. John Wiley & Sons, New York. Part one, 75 cents.

The fundamentals of the internal combustion engine are presented, clearly and briefly, in “An Internal Combustion Manual,” by Lieut. F. W. Sterling, U. S. N., School of Marine Engineering, U. S. Naval Academy, Annapolis. Fuels are considered in detail, special attention being given to the treatment of petroleum and its distillates. A general survey of the internal combustion engine, including heat balance and comparisons with the steam engine, is followed by a consideration of the essential principles governing the structural and functional details of two- and four-cycle engines. The subject of mixing and proportioning various fuels, including carbureters and vaporizers, is treated at some length, as are also the various ignition systems, cooling, and lubrication. The chapter on governing includes a very clear description of the manograph as used in connection with the taking of indicator cards from high-speed engines. Several types of commercial marine engines are described, and the subject of engine manipulation is taken up in detail. The chapter on gas producers includes descriptions of suction, pressure, and combination types of producers.

The book includes many well-selected illustrations; the method of presentation is original and the subject matter contains especially valuable information on fuels for internal combustion engines. Published at the Academy. Price, \$1.75.

A Golden Text.

Woe to the rebellious children, saith the Lord, that take counsel, but not of me; and that cover with a covering, but not of my spirit, that they may add sin to sin.—Isaiah 30:1.

Just Tired Out.

“Born, and scrubbed, suffered and died. That's all you need to say, elder. Never mind sayin' 'made a bride.' Nor when her hair got gray. Jes' say, 'born an' worked t' death.' That fits it—save y'r breath. Made me think of a clock run down. Sure's y'r born, that old woman did; A workin' away f'r ol' Ben Brown. Patient as Job an' meek as a kid, Till she sort o' stopped one day—Heart quit tickin', a feller'd say. Wasn't old, nuther, forty-six. No. Jes' got humpt, an' thin an' gray. Washin' and churrin' an' sweepin', by Joe. F'r fourteen hours or more a day. Worked to death. Starved to death. Died f'r lack of air an' sun—Dyin' f'r rest, an' f'r jist a breath O' simple praise f'r what she'd done. And many's the woman this very day, Elder, dyin' slow in that selfsame way.” —Hamlin Garland.

SUNFLOWERS.

To the bomb-proof vault: “Nuff sed.” “Splendid banquet.”

“Bumps-Williams” is the latest wedding reported by the *Longford Leader*.

Only a very foolish man tells a falsehood; but he that tells one to a woman is indeed a yap.

“The lie was passed in Congress,” appears frequently in the newspapers nowadays. Sometime it will stick.

Father Bollweg was in Wathena between trains, Wednesday, says the *Wathena Times*. We hope he escaped.

It has been discovered that the Connecticut couple, married for 77 years, “without a cross word between them,” were dumb.

Writing fiction is very interesting and literary, but a bulge in the pocket is more to be preferred than many heart throbs.

Miss Ida D. Pillow of Elwood is visiting relatives in Hollenberg, the *Wathena Times* says. Is this an Ida Down Pillow?

The McPherson *Democrat* still boosts Joseph W. Folk for vice-president. You may remember Folk, once governor of Missouri?

The defaulting bank cashier has no harsher critic than the man who dodges paying his street-car fare whenever he has the chance.

H. C. Sticher now owns both papers in Osage City. Thus, a stitch(er) in time saved both. Easy with the shot, Bill; it may be a man.

The rumor, printed in the *Manhattan Mercury*, one night last week, that “Pope Leo” was dead, was true. But Pope Pius still lives.

Dollie Plantz, 12 years old, of El Dorado, has written a poem on “Spring.” If the case is attended to now there is hope for her.

The teacher at Altoona, who punished a pupil by tying his thumbs above his head can hear of something interesting by addressing “Boxer,” this office.

If the officers of Fort Leavenworth have repented they will be pleased to hear that Mrs. J. G. Ault of Liberal has several cats which she is willing to give to the first applicant.

The “Home Friend” for April contains a story by Walter Williams, dean of journalism in the Missouri State University, Columbia. The title is, “Thick Skins or Thin Skins.”

You may not like Oppenheim's grammar, especially his “try and's,” but you have to agree that he gets the money. And that seems to be the main idea nowadays, as Walt Mason says.

“It's all very fine to be a popular student, and it's great to be a leader and have lots of offices,” said Augusta Wind, contemplatively, “but did you notice that Ralph Faxon has taken a job?”

McBride's promising reports of the Blues, sent from eastern cities, read exactly like the reports of the physician in attendance who fears to tell the truth when the patient has no chance of recovery. Mac says the Blues “are there with the rap stuff,” whatever that is.

Will some bright student in journalism—as Comrade Baloskey says—tell us what is wrong with this line, found in *The Saturday Evening Post*, last week? “There are in the neighborhood of forty-five thousand drug stores in the United States.” Think of living in such a neighborhood!

PEANUT BUTTER'S GOOD.

GET THE RAW NUTS AND ROAST AND GRIND THEM YOURSELF.

Here is a Food That Is Filled With Nutrient, Strengthening, Palatable—Sometimes Raw Nuts Are Used; Not Often.

With a little experience and the aid of a small meat grinder, anyone can make good peanut butter for home use. Get the raw peanuts and roast them. The roasting may be done either before or after shelling, but in either case the oven should be only moderately hot and the peanuts should be stirred frequently. After roasting, rub off the skins and screen out the small germs, or hearts.

In grinding, use the finest plate on the grinder and screw up the tension until the crank is quite hard to turn. If the pulp is too coarse after one grinding, it may be run through a second time.

A MATTER OF TASTE.

It will not be necessary to add anything but a little salt to the butter. If it is desired, the butter may be thinned by the addition of little olive oil. This makes a more expensive butter. The butter may be thinned in other ways. One way is to add water until the butter is thin, then beat until thick. This method is used very much in candy kitchens and lunch rooms. This is also used in some homes. Make your butter according to taste. Some cooks add vinegar to the butter to thin it. This is very good when an acid taste is desired. Mustard often is added.

Some persons prefer raw nuts to roasted ones. Roasted nuts usually are more satisfactory. Freshly roasted nuts are necessary, as those which have stood for a day or so after roasting lose in crispness, do not grind well, and tend to clog the mill.

CARBOHYDRATES, TOO.

If one desires to make a large quantity of the butter at one time, it will keep well if sealed in glass or earthenware jars. Tin cans also can be used, but are not quite so desirable.

Peanuts are a very nutritious food, since they contain a large per cent of the three food constituents—protein, carbohydrates, and fat. The butter does not differ materially in composition from the nut. The cost of peanut butter is cheap when compared to the nutritive value, and is a very economical food, especially when prepared in the home.

ALUMNI NOTES.

George May, '11, was a college visitor Monday. He is working at Downs, Kan.

E. M. Ruede, '09, who has been working in Winnipeg, Canada, the last year, visited in Manhattan last week. After a visit at Osborne, Kan., he will go to Chicago, where he has a position with the Edison company.

Oscar T. York, '11, and Elizabeth Aberle, '12, were married Tuesday, April 9. Mr. York was graduated in the animal husbandry course and Miss Aberle completed the general science work last term. Mr. and Mrs. York will live on a farm near Vinland, Kan.

H. E. Totten, a graduate of the agronomy course, '10, and Carrie Harris, of the '10 class in domestic science, were married Tuesday, April 9. Mr. and Mrs. Totten have gone to Park Ridge, Ill., where Mr. Totten has a position in a girls' industrial school.

THESE ARE TURKEY DAYS.

Get Ready Now and Avoid the High Prices of Next December.

Do you remember the price of turkeys last Christmas? You surely do; and you'll think about it next Christmas, too, if you don't "start" your turkeys now. You can have a double gain by rearing a brood on the farm this summer. They feed on grasshoppers and other insects almost to the extent of a complete diet, thus helping to dispose of the grasshopper

pest and at the same time getting food for themselves.

It should not be understood that enough turkeys could be reared in a neighborhood to eradicate the insect pests. If, however, there is only a common number of hoppers they may be greatly held in check by a few medium-sized flocks of turkeys. Too many turkeys, or congested quarters, are likely to cause blackhead. This disease is to be feared and guarded against by poultrymen. If it once gets started on a farm it cannot be removed, as the organism can live in the soil indefinitely and re-infect the flock when least expected.

No farmer should depend on turkeys alone to combat grasshoppers or other insect pests. A detailed study of the life history of every insect enemy should be made, so that a time may be selected for the attack. The best way to destroy grasshoppers is to stir the soil containing their eggs, during the winter, so that the cold and natural enemies may destroy them. Disking will do it.

A COUNTY ADVISOR IN ALLEN.

Citizens Interested in the New Plan Are Testing It.

Some of the farmers of Kansas, aided by the agricultural college, are determined to try the plan of having a county advisor. P. E. Crabtree and others from the extension department have been giving service of this sort for several years. But this is to be placed upon a schedule this year about as it might be expected to operate if regularly authorized by law.

Mr. Crabtree spent three days in Allen county last week, by arrangement, and returned to stay all of this week, by request of many of the leading citizens, among them Charles F. Scott, editor of the *Iola Register*. Mr. Crabtree will visit two farms every day, and more if possible, giving preference to those where serious problems are to be worked. He will spend three or four days in Neosho county and will then go to Leavenworth, by request of the Progressive Agricultural Club, of which Albert Wulfekuhler is a leading spirit.

On all of these trips Mr. Crabtree's expenses, of course, are paid by the county requesting his services, there being no provision in law for such an expense. He will have several weeks open in which to help those who may file their applications immediately. Mr. Crabtree gives expert advice on farm management, rotation of crops, erecting farm buildings, machinery sheds, etc. The success Mr. Crabtree has made on his own large property, and the fact that his personal work as a lecturer of farm management is merely the satisfying of a hobby with him, should make his advice particularly valuable.

The Burdens Farmers Bear.

Insects are the primary pests in many regions. For example, in southern California wireworms are among the most important pests; in Utah, Idaho, and Colorado the curly-top leafhopper and webworms are very injurious; in the Northwest the beet aphid is most destructive; in some seasons the beet army worm causes great losses; in the more eastern beet-growing states, from Michigan to Kansas, grasshoppers are very destructive; in the North, white grubs are troublesome; and southward, flea beetles and blister beetles do great damage. Cutworms are injurious practically everywhere.

Linen Frock.

One of the most attractive of the new linen frocks now being shown for wear in the South is of striped linen, made with a double skirt and blouse, a simple design that requires perfect fit and cut to make it as smart as the original model, says the *New York Herald*. The skirts are both quite scant, while the blouse has quite a little fullness. The only trimming is a collar of white linen edged with embroidered scallops. This is round and rather shallow in front, but in the back it extends to the belt.

CLEANING OR MOVING?

A FEW SUGGESTIONS MAY NOT BE AMISS FOR HOUSEKEEPERS.

Laura Boynton Storms, of the Domestic Science Department, Tells How to do Many Things That Sometimes Cause Headaches.

If there's one thing, more than another, that will make the average woman really downright angry it is for someone to tell her how to do her work. And it's the "average" woman who needs the help, too. The up-to-the-times woman plans her duties, looks ahead, reads books and papers, and knows how to do things right. Here are a few housecleaning suggestions for women who care to know, women who don't intend to move, this year.

LET IN THE LIGHT.

For instance, a woman can save herself a great deal of work by using light and air. Sounds fearfully scientific, doesn't it? But it isn't. A circulating current of air, says Laura Boynton Storms, of the department of domestic science in the Kansas Ag-

Be True to the Present.

Put out of your thought the past, whatever it may be; let go even the future with its golden dream and its high ideal; and concentrate your soul in this burning, present moment. For the man who is true to the present, is true to his best; and the soul that wins the ground immediately before it, makes life a triumph.—A. S. Davis.

gricultural College, will carry out of a room volatile substances which will condense if allowed to settle. Windows left just a little open at the top will permit the escape of smoke or greasy gases. Direct sunlight is one of the best disinfectants, and this fact realized and utilized to a greater extent is going to mean not only more sanitary homes but also much better health. The woman who keeps her curtains lowered to prevent the fading of carpets or hangings is showing poor economy.

If soft water is not available, the water you have should be treated in some way to make it suitable. This may be done by boiling or by adding some chemical, such as sal soda.

Kerosene, benzene, naphtha and turpentine are useful as cleaning agents, but must be used with certain precautions because they are very inflammable. Kerosene is especially good for waxed or polished floors, or furniture. Rub the wood dry after using it. If left damp it will be sticky and prove a dust catcher. Turpentine is a little easier to use, being more volatile, but the polish is, perhaps, not quite so good. If the finished wood has become scratched or marred, a solution of two-thirds paraffin oil and one-third turpentine may be tried.

GREASE SPOTS.

In cleaning painted floors or walls, one should use a weak solution of ammonia. Grease spots may be taken out by scrubbing with soap and water. The soap should not be applied to the spot, as this will, if repeated very often, eat off the paint. Strong suds may be made, or the soap rubbed directly on the cleaning cloth.

Soot stains are removed by rubbing with flour or corn meal. Several applications may be needed. Hot water disposes of sugary spots, turpentine of paint. White spots on finished wood surfaces may be removed with some vegetable oil. Rub the surface vigorously.

Broom bags made of some soft material, to fit loosely over a broom, are an easy device for wiping the floor or the wall paper. If very soiled, the paper should be rubbed with aerated rubber. Dough is sometimes used, but is unsatisfactory because small pieces are left sticking to the paper.

There is no way to clean water-color tinted walls. Waxed or varnished

papers may be washed with warm water.

In this day of vacuum cleaners, the cleaning of heavy carpets is much more simple than formerly. But if one of these cleaners is not available, you will have to beat and brush the carpet and sponge it with a weak soap or ammonia solution. Although these alkalies brighten the colors for the time being, their repeated use finally will leave the carpets very dull. If they have to be washed very often it would be preferable to use a solution of ox gall. This is an old-fashioned and harmless remedy for spots and dulled colors.

Grease spots are best taken out by means of some solvent, as benzene, ether or chloroform or an absorbent and heat. If a blotting paper is placed over the grease and a warm iron put on top, there should be no difficulty in its removal. If the spot is ink, a pan of hot water should be placed upon it. When the carpet is thoroughly warmed, French chalk or whiting, moistened with naphtha, should be spread over the inky place. When dry the powder should be brushed off. If one application fails to remove the spot, others may be made until all the ink has been absorbed.

During ordinary cleaning, pictures should be covered with light-weight cloths, but occasionally they ought to be carefully dusted and wiped off. Carved or gilt frames are easily cleaned by means of a small brush. These pictures may be dusted lightly with a soft cloth.

To keep leather soft, it must have an occasional dressing of some good oil, well rubbed in. For the ordinary cleaning, a cloth dampened with kerosene will keep it fresh.

TO CLEAN GLASS.

Glass may be cleaned by covering with a paste made of whiting or borax, mixed with turpentine, alcohol, or ammonia. When dry the powder may be rubbed off, and the glass polished with a soft cloth or crumpled newspaper. Kerosene may be used on the outside of a window in the winter when water would freeze.

If an iron sink has become rusty from having been left damp, the spots may be taken off by rubbing with kerosene. Kerosene is also good for cleaning almost all metals, or hot alkaline solutions are also effective. A fine powder that will not scratch may be used to polish silver, copper, polished steel, or aluminum.

Drippings of wax should be scraped off as much as possible and then the spot treated with benzene, ether or naphtha or with a blotting paper and warm iron.

If color has been destroyed by acid, it may be restored by applying sal soda. Sometimes the water leaves an iron deposit on dishes or plumbing fixtures. To remove this, apply dilute hydrochloric acid solution and rinse well with a sal soda solution.

Cockroaches or water bugs may be driven from their hiding places in pipes or cracks and corners by insect powder, turpentine, or a strong solution of carbolic acid.

Naphtha is, perhaps, the best disinfectant if bedbugs are to be exterminated. It is not harmful to colors or fabrics. The room should be emptied of its bedding and rugs and carpets and the cracks in the furniture saturated with naphtha. The room ought to be closed for several hours and then allowed to air out. This operation should be repeated within three days, to kill any insects which may have hatched during that time. Naphtha does not kill the eggs.

D. S. GIRLS IN THE CITY.

A Visit to the High Schools and the Big Industries.

Thirty-six members of the senior class in domestic science, accompanied by Mrs. Mary P. Van Zile and Miss Ula Dow, went to Kansas City, Monday, last week.

The domestic science seniors go to Kansas City every year and visit the high schools and manufacturing plants. Henrietta Crosman in "The Real Thing" was a feature of the trip this year.

GROW YOUR OWN CELERY

GOOD SOIL AND PLENTY OF WATER ARE THE PRIME ESSENTIALS.

On a Small Piece of Ground You Can Grow Enough to Supply the Family Needs—Must Irrigate a Little.

Celery returns large profits from small areas and is not difficult to grow. M. F. Ahearn, instructor in horticulture at the Kansas Agricultural College, says so.

"It is one of the most important of garden crops," said Mr. Ahearn a few days ago. "It is on the markets the year round, although the fall and early winter markets are the most important. To grow celery profitably requires a rich soil and an abundance of water. Seed should be sown in flat boxes in April or May.

"Transplant the young plants one to three times before setting in the garden. The object of this is to encourage the growth of a large amount of root fiber, so when the plant finally is set it will make a vigorous bed. The time of transplanting to the garden is from June to August.

HOW TO PLANT THEM.

"Plants should not be grown many seasons on the same ground. When setting out the plants a ball of dirt should be left on the roots. If the soil is not of the best the plants should be shaded for a few days after setting. Large varieties should be planted in rows five feet apart. If you have only a small number of plants they may be planted eight to twelve inches each way.

"Irrigation is necessary for growing celery in Kansas. The furrow method may be used for this purpose if the rows are far enough apart. A furrow is opened with a small plow, ten or twelve inches from the plants, throwing the earth away from them. The furrow is then filled with water and kept filled until the ground is soaked. If the plants are close together they can be irrigated by flooding.

BLANCHING THE CELERY.

"Blanching," Mr. Ahearn continued, "probably is the most important thing about celery raising. The object of this is to cause the growth of new stalks that do not contain chlorophyll—the green matter—in the leaves. Large plantings usually are banked with earth. Clean straw also is used. The plot sometimes is fenced in with boards and is then filled with dirt or straw, leaving only the tops exposed."

Pits, also, are used in bleaching celery. When this is done the plants are taken out of the bed with considerable dirt on the roots and packed close together in the pit. Then all but the tops are covered with straw. Water must not get to the tops of the plants or they are likely to rot. Hard freezes often injure the leaves.

SOME RECENT "BONEHEADS."

A Few Lines Showing How Reporters Neglect a Very Important Thing.

"R. R. Tosh, assistant state engineer," from *The Nationalist*, for A. R. Losh; "Mrs. M. P. Van Zile— and Van Zile— and Mrs. E. M. Dow," from *The Star*, for Mrs. Van Zile and Miss U. M. Dow; "Professor Walters, president of the State Agricultural College at Lawrence," for H. J. Waters, etc., name of paper withheld; Headley for Headlee; Schoenleiber, Sheinliber, Shinelabor, Sheenliever, etc., for Schoenleber—but this is excusable; "Prof. W. A. McKeever of the State University," instead of "William Arch McKeever of the Kansas State Agricultural College at Manhattan;" inexcusable.

California Borax Trust.

California is the only state which makes a commercial production of borax annually. The output for 1910, according to the United States Geological Survey, was 42,357 short tons, valued at \$1,201,842. Less than 4 tons was imported. About one-half of the borax consumed is used in the enameling industry for making kitchen and sanitary ware.

GET A START WITH BEES.

A FEW SWARMS WILL MAKE HONEY AND MONEY, TOO, FOR YOU.

In a Town, or in the Country, Four or Five Hives Should Supply a Family and Make \$10 or \$15 Profit.

Five or six swarms of bees will yield a net profit of \$10 or \$15 a season, besides giving a family all the honey it cares to use. Bees require very little care. Anyone in the country or in a small town should keep from two to ten hives. More than ten will either take too much time and attention or they will be neglected.

Hives may be purchased, "knocked down," for \$1.50, built and painted, for \$2.50. A swarm of good Italian bees costs \$1. It does not require much capital to start out in the bee business on a small scale. And then, the bees will pay back the cost of the original outlay in the first section of honey. In a good year there should be from two to four sections filled with honey.

ALFALFA HONEY'S FINE.

Kansas might be the greatest bee state in the Union, according to T. J. Headlee, professor of entomology at the Kansas Agricultural College. It is a great, big field of plants from which bees get their nectar. Alfalfa honey is the finest in the world, and Kansas grows plenty of it. Jewell county is the best alfalfa-producing county, and it is also the best bee county. However, the whole state is rich in clovers, and this, also, is good material.

The hives should be placed near a group of small trees, and on the east side of them so as to be protected from the hot afternoon sun and the driving rains from the west and north.

It may seem like useless advice to say that one should never work around bees without being adequately protected. Many people seem to be, for a time at least, immune from bee stings. That is all right so long as it lasts, but bees have a very strong sense of smell, and if they do not like a person they get angry and sting. One may work around bees for weeks without suffering a single sting and then some day he may perspire freely, with the result that he is badly stung. Bees become very angry when they detect a sweaty odor.

THE DAGO BEE IS BEST.

How many persons know what the comb is made from? Many think it is honey. But it is prepared from a wax which oozes out from the under side of the abdomen of the bees. The bees must eat twenty pounds of honey to produce one pound of wax. On the other hand, one pound of wax made into comb holds twenty-four pounds of honey.

Some persons are unable to eat honey, as it makes them sick. This is due to the presence of a very little quantity of formic acid in the honey. This acid gives the true flavor to the honey.

It has been satisfactorily demonstrated by government experiments that the Italian bee is the only one suitable for the United States. There are, however, several varieties of the Italian, and any of them are good.

BETTER THAN A SWATTER.

A Fly Trap Will do Much More Effective Work Against this Pest.

Kill the first flies. "One pair of flies beginning life in April may have a million descendants by June, and two billion by July," says the *Youth's Companion*. The expression "swat the fly" should not be taken in the literal sense, because killing by this method alone would go a small way toward permanent extermination. The best way is to trap them. A simple trap may be made from common screen wire by making two cones of the same diameter at the base, but one about one-fourth as high as the other. Cut a small hole in the apex, slip the smaller inside and fasten at the base. The flies may be led into such a trap by placing it near the

kitchen window when a meal is being prepared, or near the barn or garbage can. They are usually there, seeking a place to deposit their eggs. Flies may be led into a trap at a window by fastening strips of light wood on the window screen in such a way as to form a V shape, the trap being placed at the apex of the V so that the flies will crawl in, thus becoming their own "swatters."

Every farm in the state should be equipped with fly traps, sufficient in number to have at least one at every popular fly resort. If there should be a general move by all in this direction, both city and country, and if it should be started promptly, the chances for the fly would be reduced, as a certain Irish lecturer said, to the "lowest minimum."

DOES RED EXCITE YOU?

Some Colors Are Warm, Some Cool, and Others Merely Restful.

Certain colors give the effect of warmth, others coolness. Red is usually considered as being of an exciting nature, green as restful, yellow as pleasing, blue and especially dark blue as depressive. These points should be taken into consideration in choosing a color scheme.

The two principal things learned in a course in color and design are to appreciate beautiful things, and to work with the mind and the hands to produce beautiful things.

Color is studied to understand and to appreciate nature, to be able to know which colors are becoming and can be used together in a pleasing manner. If a color is well arranged in regard to harmony and subdued tones, it may take the place of richer appointments and costly furniture.

Harmony in design is as important as harmony in color, so all the emphasis must not be placed on color alone.

Besides the study of harmony, combinations, and the use of color and of the designs, stenciling, rug weaving, and making of raffia and reed baskets are also to be learned.

He is Dead.

He is dead. T. F. Jones is dead. The pioneer who came to Walnut, Kan., in 1868, is dead. His days have been numbered and he sleeps with his forefathers. He died on Wednesday, April 3, 1912, aged 62 years, 6 months, 10 days. He was born in Wyandotte, Ind., September 12, 1849. For forty-four years he lived here, with the exceptions of a few years that the family has lived at Oxford. Everybody knew him and everybody was his friend and loved him. But Tom Jones is dead. He sleeps in the cemetery. Six foot of ground is his portion as it will be yours and ours some day. And that is the end of us all. Tom Jones has passed to the beyond where no discord mars the symphony of song, where tears do not dim the eye, where age does not wear, and where feet do not tire in the way; where duty does not fade, where joy does not give place to sorrow, where smiles do not turn to weeping, and where the light is never dark.—*Walnut Eagle*.

A Cuban Dish.

Many a housekeeper has had difficulty in cutting slices of guava jelly, which persist in sticking to the knife. If she were to dip her knife in cold water before cutting, her troubles would vanish. A pretty and favorite dish in Cuba is alternate slices of guava jelly and cream cheese served to eat with crackers for dessert.—*Good Housekeeping*.

Wild Times in Gray.

Mr. Scott has finished his barn and it certainly makes a great improvement. We love to see old Gray county coming to the front.—*Mertilla Items in the Cimarron Jacksonian*.

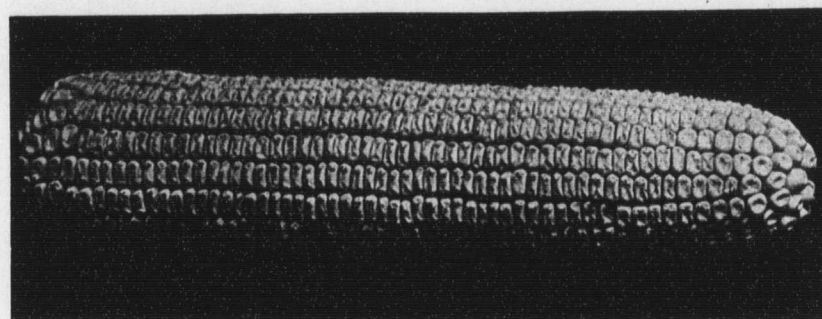
Who's Got the Button.

A boy was born to Mr. and Mrs. George Button last week.—*Cimarron Jacksonian*.

If there is one thing that is harder than to be frank and popular, it is to be economical and popular.

It's Time to Talk About

Contests for the Boys and Girls



The Boys' Corn-Growing Contest

**AN ACRE-YIELD HONOR ROLL
A FIVE-ACRE-YIELD CONTEST**

The Bankers and the Commercial Clubs of the State are helping. Several Banks already have agreed to send boys—one or two—to the State Farmers' Institute at the Agricultural College next December. This influence, with that of the local institutes, should spur the boys to big things, this summer.

Four Sets of Prizes

The usual classes, a Special, and the Extra Inducements for Big Yields. You might get a trip to the State Institute, next December, when the Corn Show is on. Four days of corn and stock judging. Four days of helpful talks. Think it over, Boys.

The general contest will be limited to boys between ten and twenty-one; Class B, boys from ten to fifteen, and Class A, boys from fifteen to twenty-one. Boys who will be fifteen years old by July 1, 1912, may be admitted into Class A.

Can you produce 75 bushels an acre?
Can you produce 60 or 40 bushels?

Every active Kansas boy ought to win under one of these classifications.

Potato-Growing Contest

A plot about 50 x 50 is suggested for this work; variety planted to be left to contestants. Method used to be recorded for use, later. Prizes are recommended for the best ten potatoes, and for the largest yield. KANSAS NEEDS MORE POTATOES. GROW THEM.

The Program for 1912 is Ready

Nothing so attractive ever has been prepared. The small towns and communities have missed many fine chances for interesting, healthful and profitable work, in past years. THE STATE AGRICULTURAL COLLEGE hopes to change these conditions. It wants every girl in Kansas to enter the

Girls' Garden and Home Contests

Tomato-Growing Clubs. Flower Garden Contests. Butter-Making Contests. Family Garden Contests. Bread-Making Contests. Mending and Sewing. Fruit and Vegetable Canning. Jelly-Making Contests.

**Contests for Girls
IN TOMATO GROWING
Easy, Interesting Work**

One rod square is enough for 16, 20 or 25 plants.

The girls must do the work after the first plowing.

Address, for further information,

Director of College Extension, Box 31

Kansas State Agricultural College, or Your Institute Officers

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, April 27, 1912

Number 27

TURN ON THE BORDEAUX.

THE FIRST SPRAY IS DUE BEFORE THE FLOWER BUDS OPEN.

When the Blossoms Fall, Spray Again for Codling Moth, Curculio, Scab, and Blotch Fungi—The Treatment for Peaches and Plums.

Just after the cluster cups open and just before the flower buds unfold is the time to make the first spray, says Albert Dickens, professor of horticulture at the Kansas Agricultural College.

"The second spraying, which usually is intended for the codling moth, curculio, scab, and blotch fungi, should be applied at the dropping of the blossoms and before the calyx lobes close. The third spraying, intended for codling moth, curculio, scab, blotch, black and bitter rot, should be given about three weeks after the blossoms fall. When bitter rot is not suspected this should consist of arsenate of lead alone. The time to spray peaches and plums is just before the buds swell and then just after the shucks fall. You must be on the lookout for brown rot, scab, and curculio.

WHY IT IS DONE.

"The material used in spraying is composed of two substances. One is intended to destroy the insects and the other to control fungi. The first is arsenic in the form of arsenate of lead. This is a stomach poison and must be placed on substances which the insects will eat. Arsenic in this form is not so likely to burn the foliage or fruit and clings to them very well.

"The other substance is copper sulphate, or blue vitriol. It is used with milk of lime to form Bordeaux mixture. Lime-sulphur solutions are also very effective in killing disease spores. If the weather is dry it is best to use Bordeaux solution, as it is the most effective, but if the weather is wet, lime-sulphur should be used. For spraying peaches and plums the solution should be about half the strength that is used for apples.

THE POWER USED.

"These solutions are applied under pressure in the form of a fine mist which will reach all parts of the tree. There are three sources of power for this spraying—man power, gasoline engine, and compressed air. The first is the cheapest and most practicable if there is less than 500 trees to be sprayed. But when there are from 500 to 2000 trees to be treated a gasoline engine should be used. If more than 2000 trees, compressed air is the best.

"If the engine runs well and other things are equal, it usually costs a little more than one-half as much to do the spraying as when done by hand power. All parts that come in contact with the fluid should be of brass. The air chamber should be large enough that the liquid will be delivered in a steady stream.

"All working parts should be so arranged that they may be easily cleaned. The end of the hose should be connected with an extension rod. An ordinary gas pipe may be used. This rod should have one or more nozzles, depending on the pressure."

WEST VIRGINIA AN APT SCHOLAR.

Kansas Again Sends Helpful Instruction to Its Eastern Sister.

Kansas continues to teach West Virginia how to cook. The extension department of the agricultural college recently was asked to send its chief organizer, Miss Frances L. Brown, to West Virginia to start a campaign for extension work in cooking and sewing. Miss Brown spent a week there telling how to begin the work and explaining how it is carried on in Kansas.

A similar request came from West Virginia last year, but Miss Brown, being unable to leave her work at the time, sent one of her assistants, who spent a month demonstrating with movable schools, and talking extension work all over the state. A wealthy citizen of Wheeling, up to that time, had been paying the bills for all this work, but recently an appropriation was given the University of West Virginia to carry on the work. Miss Winifred Cowan, a graduate of the Kansas Agricultural College, is in charge of the work there.

WHEAT—80 MILLION?

Fifteen Bushels an Acre is the Conservative Estimate of Experts.

Kansas will produce 80 to 90 million bushels of wheat this year. William M. Jardine, head of the farm crops department in the Kansas Agricultural College, says there will be nearly six million acres to harvest and that conditions are such as to make a probable average of 15 bushels an acre.

Government reports issued April 1 say that the condition of wheat in Kansas is 85 per cent. A year ago the condition at this time was 75. The ten-year average is 84. It is reported that in Brown, Marshall and a number of the northeastern counties much of the wheat has been winterkilled. In and around Riley county, 15 to 20 per cent has been winterkilled. McPherson county reports serious damage to wheat in that region. Prospects are favorable for a good crop in Ellis, Saline, Ellsworth, Russell, Cloud, Republic, and Jewell counties.

Although some of the wheat has suffered because of the severity of the winter, the crop likely will be much larger than present conditions seem to indicate. In the south the late seeding seems to have been the best. Some fields sown in November look fine. This is unusual, however. In Edwards and Ford counties the stand is good, but the crop is backward. This is true also in Marion, Harvey, and Sedgwick counties.

Harrowing wheat early in the spring is almost always advisable. Such treatment will never do any harm and will likely increase the yield materially. This year the ground has crusted as a result of the heavy snows followed by drying winds. The harrow does not break this crust effectively, so the corrugated roller, the sub-surface packer, or the spike-toothed alfalfa renovator are recommended in preference to it. In ordinary years the harrow would accomplish the purpose. The implements should be driven at right angles to the drill rows. The disks of the disk harrow should be set straight up and down so as not to tear out too much of the wheat.

The snows last winter were beneficial. The snow covering protected the wheat during the hard freezes and then most of it melted and went into the ground. Later snows packed and crusted the soil. The crust keeps out air which the roots need and increases the evaporation. Cultivation to break this crust is necessary to produce a bumper crop.

Missouri's Journalism Week.

Journalism Week at the University of Missouri—an annual event of importance to all persons interested in journalism—will be held this year at Columbia, May 6 to 10. The program, announced by President A. Ross Hill, includes discussion of news, editorial, advertising, illustration, business management, equipment, the cost system, special feature. Each subject will be discussed by recognized authorities.

Provided your cow is a good one, the more she is fed along right lines, the more she will give.

CLOD, NOT DUST MULCH.

JARDINE EXPLAINS HIS ADVICE FOR WESTERN KANSAS FARMERS.

Regret That Some Persons Understood That a Dust Mulch Was Advisable—That Would be a Dangerous Practice, He Says.

It was a clod, not a dust mulch, that the agricultural college recommended for western Kansas.

"It is regretted that some farmers out there believe that we recommended a dust mulch on the fallow," said W. M. Jardine, professor of agronomy, to-day. "A more dangerous practice could not be suggested for that district. A two- or three-inch layer of finely pulverized soil over a field would offer the very best chance for the soil to blow. The dust mulch should be avoided. A clod mulch is what we advised.

"The alfalfa renovator on wheels, the alfalfa spike-tooth harrow, the alfalfa spring-tooth renovator, and various types of corn cultivators are

Don't Forget.

The garden.
The silo; reinforced concrete.
The front yard.
A few flowers.
A bath tub.
Water into the house.
The contests for boys and girls.
Tomato growing and canning for the girls.
The Movable Cooking School or the Home Economics Club.
The Correspondence Courses.
A vacation for mother—some day.

all good implements to use in cultivating the fallow. They leave the top soil in a cloddy condition rather than pulverized, and at the same time kill weeds.

NO DISK HARROW.

"Avoid the disk harrow in cultivating fallow. Whenever it is used set the disks to run straight. It is also more expensive to cultivate fallow with the disk harrow than with the other implements mentioned. In working the soil, whether it be in plowing it or cultivating it, every operation should be performed with right angles to the wind as far as practicable.

"Occasionally there are wind storms so terrific that ground handled in almost any way is likely to blow some, but when farmers see their soils beginning to blow, they should go into their fields with one or more of the cultivators mentioned and work the land at right angles to the wind. They will be surprised how effectively it will check the soil from blowing.

"Ordinarily we recommend spring plowing, preferably beginning about the first of May, after the most severe winds have ceased, and after most of the regular spring work has been done. Plow six to eight inches deep, preferably eight inches. A soil that is plowed deep will hold more moisture and develop more plant food than a shallow-plowed soil. The plowing may be done with the lister or with the regular plow, according to the choice of the farmer and the implements at hand. They are about equally effective if the ground is properly cared for thereafter. Whenever a farmer finds it possible to list his ground in the fall, there is no good reason not to do so. We discourage fall plowing with the ordinary plow, as there certainly will be danger of

the soil's blowing. As suggested, see that the soil is listed at right angles to the prevailing winds. Listed ground, too, will hold moisture that comes in the winter.

THE SEED BED.

"Where the ground is listed in the fall or in the spring, it should be worked gradually into a level seed-bed before planting time. Such cultivation should begin as early as possible in the spring, and the crust should be broken after every heavy rain thereafter. With such cultivation the ground will be left in a level and excellent seedbed by wheat planting time. Only such cultivation should be given as is necessary to prevent the forming of crust, and to keep down weeds.

"We advocate the following rotation for western Kansas: Summer fallow the first year, planted to winter wheat that fall; the winter wheat followed by sorghums, kafir, milo, or cane, then fallow. Sorghums leave the ground in bad condition to plant wheat. They drain the soil of its moisture and plant food late in the season. When allowed to rest in a summer-fallowed condition for six to eight months, however, the soil comes back to its normal condition and produces wheat well the succeeding year. Winter wheat and sorghums are the crops that make money for western Kansas farmers, and this rotation insures maximum yields of both and gives the farmer two good crops in three years."

BARRED ROCKS ARE FIRST.

More Marketable Than White-Feathered Chickens, Lippincott Says.

The most marketable breed of chickens is the Barred Plymouth Rock. This decision, handed down a few days ago by W. A. Lippincott, professor of poultry husbandry at the Kansas Agricultural College, answers a question which long has been disturbing the minds of poultry-raising persons. It will be a hard blow to the popular theory that white-feathered chickens are more in demand on the markets than any other breed. Doubtless you have stood by that belief all your life, and you may take exception to the ruling of the court.

But white feathers don't count for all, the poultry professor says. And he has made, in packing centers, an investigation upon which to base his assertions. As to their marketable merit, Professor Lippincott ranks the various breeds like this: Barred Plymouth Rocks, White Wyandottes, White Plymouth Rocks, Black Langshans, Leghorns, Brahmas, Cochins, Scrubs.

Yellow shanks and yellow skin are demanded above everything else, the decision says. Further, the shanks must be clean and free from feathers. The body must be plump and of medium size—four to seven pounds, for roasting birds. The breeds that most nearly meet these requirements are the Plymouth Rocks, Wyandottes, and Rhode Island Reds. The reason such breeds as Buff Wyandottes and Rhode Island Reds do not appear in the list just given is because they have not been bred in sufficient numbers to make an impression on the market. Packers are not acquainted with them.

A Tan Bark Floor.

The floor of the new stock pavilion has been covered with tan bark. The animal husbandry and dairy departments hauled the bark from the cars and put it on the floor. This bark will not get dusty, as did the straw which has been used.

Success in the dairy seems to be most all "s," separator, silo, scales—then the following letter "t," test is a close second.

WORK IN THE GARDEN.

FIFTY KINDS OF TOMATOES ARE TO BE SET OUT THIS YEAR.

Records Are Kept of Every Variety of Vegetable, so that Inquirers May Learn Which is Best for Kansas.

The gardeners at the Kansas State Agricultural College are busy. Fourteen varieties of tomatoes, 50 plants of every variety, will be set out this spring for experimentation. Records are kept of the yield, keeping qualities, and smoothness.

Many varieties of onions, lettuce, radishes, parsnips, carrots, and other vegetables are grown, careful records of the yields being kept so that the experiment station can recommend the best varieties for Kansas conditions. The college buys seed from regular dealers, so that conditions are nearly like those on a farm garden. A thorough trial is given every variety before it is recommended.

ENRICHING THE SOIL.

Experiments with fertilizers—barnyard manures and the commercial products—are used in the garden. Barnyard manure is applied in large quantities every fall. Experiments with manures require a number of years.

The crops are carefully arranged in plots. The vegetables that require a long season to mature, as asparagus and rhubarb, are grown on one side of the field. Early maturing vegetables are planted on the other side. In this way, a part of the garden may be used twice in the same season, and the land may be cultivated more easily.

In another part of the garden, young trees of various kinds—white, scarlet, red and pin oak, hard and soft maple, green ash, honey locust, white elm, hackberry, and tulip trees—are being transplanted by the horticulture department. These are ornamental trees. They are set about 4x4 feet apart to remain for a year, after which they will be sold or transplanted to other parts of the grounds.

Before planting, deep furrows were plowed straight across the field. The trees were set every four feet in the furrows, the varieties being planted in separate plots, and the soil pressed firmly about the roots. The trees are then trimmed in the way they should grow. (That was not quoted from the Bible.) Young trees require constant cultivation. This ground had been in garden stuff and was plowed deeply, harrowed, and then marked.

A WARM PLACE.

Early garden crops grow best on a sandy soil with a slight south or southeast slope. Such a soil will warm quickly. A clay loam is a good soil for late garden crops.

Trees should not be planted on a high slope, for the soil is likely to be too thin. The best place to plant depends on the kind of trees. Willows grow best near a stream. Red cedars grow well on limestone hills. Some trees grow best in shaded places. Others need plenty of sunlight. Some varieties make the greatest growth on sandy soil, some on heavy clay, and others on intermediate soils.

The horticulture or the forestry department will give exact information about trees, their planting and care, to anyone who will explain the conditions under which the trees are to be planted and grown.

Most intelligent men realize that it costs just as much to raise a scrub as a well-bred animal. When it comes to selling, there is a vast difference in the price that the two will demand. At the same time, scrubs are still very much in evidence all through the land.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in *THE KANSAS INDUSTRIALIST* are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for *THE KANSAS INDUSTRIALIST* makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, APRIL 27, 1912.

SUMMER SCHOOL.

The summer school is to have several important features, this year, at the Kansas State Agricultural College. To this school come many teachers of our public schools, especially the rural schools. More of them should come. The courses offered will be such that will help these men and women. They will go back to their schoolrooms filled with new information and bright ideas. The quality of work done by the students will be improved. The people of Kansas, as a whole, will be benefited. Those teachers who attend summer schools should be rewarded either by an increased salary or by an allowance for expenses. In some states, teachers are required to go to some summer school instead of to the various county institutes. It can be seen readily that better work could be done in this way. The school patrons should encourage their teacher to go to some summer school.

FOR YOU, FATHER.

Many Kansas farm wives are not getting a square deal in the home, today. The average farm homes are not provided with the conveniences they should have, and which the family can easily afford. It is time the husbands, or alleged lords, who handle the money, separate themselves from some of the dollars they have been squeezing until the Goddess of Liberty is mashed out of shape, and purchase some labor-saving machinery for the homes.

A good power washing machine can be purchased for \$25, or less for the smaller sizes. An engine to run it can be purchased for twice as much, and it can be used to run the churn, cream separator, and other similar equipment.

Homes equipped with modern conveniences will lead the boys and girls to see the best side of farm life. If some of the advantages of city life are found on the farms, with all the advantages of rural life, the children will see no reason for leaving. Better country homes will help solve the rural problem, materially. F. B. N.

MOVABLE SCHOOLS.

The movable cooking school brings the domestic science department of the Agricultural College right to the people. The hundreds of requests that come from different towns and communities for these schools, and the way in which the people attend them when they come, testifies to the esteem in which they are held. It is possible for the department of agricultural college extension to have a cooking school only once in a place, as so many other towns are asking for this kind of help. Miss Frances Brown, Miss Ella Nash and Mrs. Mary Simmonds, lecturers in this department, declare the people are always willing to do their share and learn all they possibly can.

The movable schools are extremely practical. They consist chiefly of actual work, in which meals are pre-

pared, cakes baked, etc. This training is certain to benefit those who are unable to attend the college at Manhattan, either because of financial reasons or because they have passed the age (although they may not admit it) when they think it worth while to go to college.

Those who attend the schools range in age from girls of fourteen to girls of fifty. And the latter take just as much interest in the work as the former. The school gives the older women help in cooking certain to make their meals twice as nutritious, and it starts the girls on the right path to happiness. D. L. M.

COUNTY ROAD FUND.

Section 33 of the Road Law reads in part:

"The county commissioners of each county may at the time prescribed by law for levying county taxes levy a road tax for county and state roads and bridges of not more than one mill on the dollar on all taxable property in their respective counties, and the same shall be . . . expended to build, repair, maintain and improve the state and county roads of such county, providing that the boards of county commissioners shall, within the limits prescribed of one mill on the dollar, keep all state and county roads within their respective counties in first-class condition."

It will be noted that this county road fund can be used only in constructing roads and bridges on highways classified as state and county roads.

The question has been raised as to whether this one-mill levy is included or is in addition to the maximum county levy fixed by statute. In regard to this point the attorney general's opinion is:

"The one-mill levy provided for in Section 33, Chapter 248, of the laws of 1911, is clearly in addition to the limit fixed by Sections 9393 and 9396 of the General Statutes of 1909. Section 33 provides for a levy of one mill for county and state roads and bridges—a special tax for specific and definite purposes—while Sections 9395 and 9396 of the General Statutes of 1909 are in regard to the levy for general purposes and have no more to do with determining the levy under Section 33 than they do in determining the levy for the county interest and sinking fund."

THE SOIL IS COLD.

Plants are slow in starting to grow this spring. It has been a backward season, the soil temperature has been low, and this regulates, largely, the reawakening of nature.

Growth will not take place with most of the cultivated crops until the soil has attained a temperature of from 45 to 48 degrees F. And it would not help much if the plants would grow at a lower temperature, for the formation of nitrates, and other plant foods, does not begin until after the temperature is higher than 41 degrees F. The formation of plant food does not take place rapidly until the temperature is much higher and does not go on the most rapidly until 98 degrees F. is reached.

Seeds germinate best at from 70 to 85 degrees. The best temperature for wheat is 84 degrees. For corn it is nine degrees higher, as this is more of a tropical plant than wheat. The seeds will germinate and grow slowly at much lower temperatures, however. It does not pay to plant corn before the land is warm enough to allow a good growth, as the plant will be much weakened, and not be capable of the best development. And the more quickly the seeds are allowed to germinate, the higher will be the percentage that will grow.

Much of the Kansas soil warms up slowly in the spring because of the excessive amount of moisture in the land. If the heat of the sun's rays must be used to evaporate water, the soil will be warmed slowly. In southeastern Kansas, a great deal of the land is so wet and cold in the spring that crops cannot be grown until long after the surrounding land is growing crops in good condition. The remedy for the wet lands, of course, is farm

The News & New Books

An English book on "Problems of Boy Life," contains many able chapters, contributions by various authors. It furnishes a sane and comprehensive treatment of the perplexing boy problems as they appear in the British Isles. The book is especially commendable on account of the democratic ideals which it inculcates. Edited by J. H. Whitehouse, M. P. (1912) 342 pp. P. S. King & Son, London. 10s, 6d.

Inadvertently the price of "Boy Life and Self Government" was printed 75 cents, in a recent review. The price should have been one dollar. The correction is offered by the publishers, the Association Press, New York.

drainage. All fields which usually are wet in the spring should be tile drained.

The color of the soil also has a marked effect on the soil temperature. The darker soils always are warmer than the lighter soils. Frequently the difference is more than a degree. This

why there is danger of this condition sneaking upon us while we are unaware. The change is such a gradual one as to attract notice only of the most far-sighted and keen observers. Rural sociology is being taught in the Kansas Agricultural College; and a course in "Rural Life Problems" is being offered at the congregational church of Manhattan, so that thought and attention are being directed to this great subject, and all who are interested have a chance to learn.

R. P. C.

FOR BETTER LIVE STOCK.

Only 1.05 per cent of the beef animals of the United States are registered. The proportions among the other farm animals are: Horses 1.02, dairy cattle 1.07, sheep .46, and swine .45.

There is something wrong. Kansas farm and pasture lands cost a high price nowadays. Stockmen can't afford to produce the same quality of animals upon which they could make a profit 25 years ago. Prices are changing, and beef is becoming higher. Beef costs more to produce, but the farmer who rears high-class beef animals on expensive acres can still

Newspapers.

Every worthy citizen reads a newspaper, and owns the paper which he reads. A newspaper is a window through which men look out on all that is going on in the world. Without a newspaper a man is shut up in a small room, and knows little or nothing of what is happening outside of himself. In our day newspapers keep pace with history and record it. . . . A good newspaper will keep a sensible man in sympathy with the world's current history. It is an ever-unfolding encyclopedia; an unbound book forever issuing and never finished.

—Henry Ward Beecher.

A journalist! That means a grumbler, a censorer, a giver of advice, a regent of sovereigns, a tutor of nations! Four hostile newspapers are more to be dreaded than a hundred thousand bayonets.

—Napoleon the First.

makes a greater variation in the temperature of the dark soils in the spring. F. B. N.

A BOOMERANG.

Back to the farm talk comes back to the point of origin unless there is a reason. If the farm boys that are worth while are to be kept on the farm, the only possible means of doing it is to show them the big work to be done there. Farmers generally do

A Golden Text.

Blessed be the Lord my strength, which teacheth my hands to war, and my fingers to fight:

My goodness, and my fortress; my light tower, and my deliverer; my shield, and he in whom I trust; who subdueth my people under me.—Psalms 144: 1, 2.

not feel their own importance. They do not realize how quickly humanity would perish from the earth if their labors should cease: that they are of greater importance politically than any other class in the nation. And that if their strength should be combined, no force in existence could alter the current of their will.

These things being true, shall we not apply the first law of life; the preservation of the species? Or shall we do as has been done in the past by other nations: allow the farmer class to be so reduced, socially and intellectually, as to become nothing more than slaves? To solve the problem of increasing the products of the land to meet the needs of the growing population, and at the same time retain the present high standard of living, by maintaining the product per man, is a great enough task to justify the efforts of the most brilliant young man. He may remain on the farm and have the largest call of the century to answer.

Great forces move slowly: that is

make as much money as the man who reared the scrubs on the low-priced land.

The same process is going on in Kansas, to-day, that took place about 1760 in England. Up to that time, land had not been so expensive in the mother country, and a profit could be made from the scrubs. But land began to increase rapidly in value, and the landowners found they could make little profit from their herds. Therefore, some of the leaders began to improve their farm animals. They began the investigations into the problems of animal breeding.

What is needed in Kansas is a realization that fine stock is not a fad. If all stockmen knew that there is more good, hard profit in keeping well-bred animals than in keeping scrubs, the runts would be sold in a hurry. But they don't realize this fact.

The county breeders' associations will do much to solve the problem of meat production in this state. Take, for example, the Woodson County Breeders' Association with headquarters at Yates Center. In the five years the association has been in existence, the number of registered animals in the county has been increased many times. The standard of all the animals is being raised rapidly. The association conducts a fair and sale every fall, which are real events in the lives of the farmers of the county. Such associations in every county would soon raise the standard of Kansas farm animals. F. B. N.

The Narrative Style.

While Jack Horrell and Louis Heberling were unloading a car of coal last Thursday afternoon, Jack, who was working on top of the load, became overbalanced while lifting a piece of coal and fell to the ground, striking on his head, breaking his neck, and killing him instantly.—*Overbrook Citizen*.

Dusk and Dark.

BY VALE DOWNIE.

The twilight, the rose light,
Comes creeping from the east;
Stable doors are shutting
The milking song has ceased.
'Tis time for candle-lighting
In cottage and in hall;
The twilight, the rose light,
Is falling over all.

The twilight, the gray light,
Enfoldeth earth and sky;
The gold has melted from the hill,
Crows are beating by.
Glow worms light the willow copse
And haunt the rushy holm;
Hearth light and love light
Are sweetest at the gloom.

An old moon, a cold moon,
Is cradled on the hill;
Above the marsh and meadow land
The mists are white and chill.
The pleasures and the pain of day,
The toil and strife are gone;
Through dark night, through mirk night,
God keep you till the dawn.
—*Farmer's Journal*.

SUNFLOWERS.

The Atlantic isn't the only place, either, where ice is high.

Strange no one has blamed the tariff for the Titanic disaster.

A young couple living near Iatan has triplets and declare that money couldn't buy them. Don't worry.

"Tomatoes Are Scarce," wails the esteemed Hutchinson *News*. They're not planted yet; give them a chance.

And with all respect to Comrade Baloskey we don't think much of the five-cent anecdotes for which W. R. N. is being "mulcted" \$2.

"Lips that touch liquor shall never touch ours," but nevertheless we can't understand why any daily paper would run a W. C. T. U. column.

Watch the Titanic story disappear. How soon we forget! Who, by the way, was this Thaw person, soon to be released from an asylum. What was it he did?

Our recent comment on Mr. Faxon's job was written with the full knowledge that his wages were to be \$2500. We reiterate job and wages. Twenty-five hundred indeed! Huh!

Read the passengers' accounts of the Titanic disaster, and then wonder how men and women have the nerve to complain that newspaper writers occasionally get things wrong.

Quoting a speech by Representative Bathrisk, a few days ago, the *Weekly Kansas City Star* says Secretary Wilson is a "Disgarce." There'll be trouble if Collier's hears of this.

The Chapman *Gazette* has discontinued publication. The editor has turned the print shop into a bakery; and every paragraph in the country will be saying things about him kneading the dough.

The unsmiting Mr. Smiley of the Kansas Grain Dealers' Association is spreading over the state his customary pessimistic crop reports. Things, especially wheat, are in a fearful condition, according to E. J.

A minister in Chicago has announced that in the future he will perform wedding ceremonies only for those having health certificates. But even this won't keep a man in health after the first month's bills come in.

Among our exchanges, this morning, was a periodical entitled "Verden's Gang." We do not know Verden and care nothing for his gang. As the paper is in Norwegian or some other foreign tongue the purpose of this attack may never be known.

What a strange contrast it was, on the front page of *The Star*, a few days ago: Columns of details concerning the terrible disaster to the Titanic, and at the bottom of one distressing story a one-line bit telling how a boy drowned in Turkey Creek, Kansas City!

Journalist.—You ask if this sentence is correct: "Mrs. Welkins was taken suddenly ill and her relatives were notified and a physician summoned and in an hour she was dead." Not knowing which arrived first, the relatives or the physician, we cannot answer.

The new school of journalism at Columbia University was endowed by Joseph Pulitzer. He gave it two million dollars. But the boy or girl who takes journalism there must pay \$180 a year for it. They can get the same thing—possibly a little better—in Kansas for \$3 a term, \$9 a year.

EASY WITH THE SHRUBS.

DON'T FILL THE YARD SO FULL OF THEM, FATHER.

Select Some of the Best Varieties and Arrange Them Artistically—Try Spirea, Snowballs, Japanese Quince, and Dogwood in a Group.

Don't crowd the lawn with shrubs. The open lawn with grass is much prettier for the small lawn than to be dotted here and there with shrubs. Too many shrubs spoil the effect and deaden the grass. This is the advice of M. F. Ahearn, instructor in horticulture at the Kansas Agricultural College.

"However," he hastens to add, "shrubs may be planted in the angles of the buildings or walk, and along the outer edges."

For a medium size or larger lawn, shrubbery may be used to good advantage. In grouping these, tall and short shrubs together are artistic. For instance, snowballs, spireas and dogwood, with the snowballs in the background, make a pretty combination. This planting gives flowers from the snowballs early; the spireas a little later; and the red foliage of the dogwood makes a pleasing contrast to the green of the shrubs.

PRETTY WINTER BERRIES.

Around the walk or in the angles, plant dwarf Barberry, sometimes called Japanese Barberry. This little shrub has several important points to recommend it for planting on lawns. It is only two to three feet high; has bright green leaves, and yellow flowers, which become red berries. These berries hang on through fall and winter, and may be seen very often after the leaves are dropped.

As individual specimens, nothing much finer can be grown than mock orange and pearl bush. Old favorites, but rather ragged in appearance, are lilacs—white, purple and red varieties, and at the present time, very beautiful budded varieties. These are generally budded on privet. Be careful in selecting such plants, as they are likely to be shorter lived.

In general, a fine selection of shrubs may be gotten from the following list: Spirea Van Houttei, Spirea Spunthunbergi, Spirea Pruni folia, Spirea Bumada, especially a variety of the last called Anthony Waterii. Barberry for hedge plants are: Berberis Vulgaris, the common barberry, and the purple leaf variety of this species, drawf or Japanese Barberry and Berberis Thunbergi. A very common shrub is Cydonia Japonica, or Japanese Quince. White and red varieties are very popular.

THE DOGWOODS.

Among the dogwoods, the red-bark barberry and the large flowered dogwood are especially useful in landscape work. For outlines of the lawn, privet may be used, although this has a tendency to winterkill. During the last winter many privet hedges have been killed. When it does well, and is not injured by winter weather, it is a very beautiful hedge.

The list would not be complete without mentioning the Rose of Sharon. This plant is conspicuous on the lawn when it is in flower the last of July or August. It is one of the few shrubs that require pruning, otherwise it would grow loose and straggling.

The advice Mr. Ahearn gives to beginners is not to overplant the lawn. Use good judgment in selecting the shrubs. Get a few worthy of the time it takes to care for them, and plant where they will do the most good. If ever you become tired of them, dig them out, and replace with other varieties. The list of useful shrubs is very large.

ALUMNI NOTES.

E. W. Reed, class of 1892, a prosperous citizen of Holton, was elected mayor of that city at the last election. The city changed to a commission form of government. Considerable spirit was shown in the election. Mr. Reed had 710 votes as against 397 to two opposing candidates. Marietta

(Smith) Reed, class of '95, and three little girls are well.

John Schlaefli, '11, visited at the college last week and attended the orchestra concert.

Earl Wheeler, '05, and Miss Margaret Taber Johnson, will be married Wednesday, May 8, at Lorcom Farm, Cherryvale, Va.

Miss Nell Hickok, '11, and Miss Irene Taylor, '08, attended the orchestra concert Saturday. They are teaching in the Dickinson county high school at Chapman, Kan.

E. A. Adamson and Olive (Dunlap) Adamson, both of '05, have a boy, Edgar Hall Adamson, who arrived at their home in Schenectady, N. Y., April 17, conveyed by the stork.

To The Kansas Industrialist:

I received a single copy of THE KANSAS INDUSTRIALIST, last fall, which I have been treasuring very carefully till now—hoping all the while that another might come. My exceeding modesty has kept me from complaining.

I called on the editor of *Field and Farm* this afternoon, and there I saw a copy of THE KANSAS INDUSTRIALIST! Of course I begged it, and read it, and wished I had been getting it regularly. I have just finished reading the last of the last page—the double-column advertisement (such a fetching thing, too!). This letter is the result. I hope you will be very quick about restoring my name to the list.

Birch's article, "Two Heads," interested me. We of the Office of Farm Management are working out part of Birch's idea: we go to the farms to learn from the farmers and their farms; then we are able to go to other farmers with ideas and methods that we know will work because we have seen them worked. There is something very interesting with theories that actually square with the experiences of farmers who win the respect and confidence of their neighbors, their bankers, and the competent investigators from the colleges and the department. D. W. WORKING, '88.

R. F. D. 2, South Denver Station, Denver, Colo.

Mr. Working's letter draws attention to the failure of the alumni to notify the office when they move from one address to another. His paper, for instance, has been going regularly to Morgantown, W. Va. Any member of the alumni who desires THE KANSAS INDUSTRIALIST sent him, free, should send his address to the editor and should keep him informed of his changes of residence. The alumni is the college's big asset. Its officers are eager to hear from every graduate, and from every former student, too.

DAIRY CLASS TO TOPEKA.

Professor Reed's Students Judged Holsteins at a Sale There.

The class in advanced dairy judging went to Topeka, last Saturday, to attend a big sale of registered Holstein cattle. About 25 students, accompanied by O. E. Reed, professor of dairying, went on the trip.

The class got copies of the sale catalogue and studied the pedigrees and breeding of the animals offered, a week before the sale was held. Saturday the individuals were compared with the breeding.

The men got an idea of the demand for dairy cattle and gained experience in buying and selling at public auction and in other things which they could not learn in the class room. On the trip, the class visited the Holstein herd owned by H. B. Cowles of Topeka; inspected the barn, and judged classes of dairy cattle. Several trips have been planned for this term as part of the work of the class.

Worth Knowing.

Tar stains may be removed from dress goods by moistening with olive oil. Let stand a half hour, then wash with tepid lather. Do not wring, but let the water drip as it hangs up.—*To-day's Magazine*.

A switch in time has saved many a coiffure.

A BROODER NEEDS CARE.

IF THE CHICKS GET TOO WARM THEY ARE WEAKENED.

A Good Feed May be Made from Hard-Boiled Eggs Mixed with Bran and a Little Water—Green Feed Necessary.

Don't cuddle your chicks too much. They should be kept comfortably warm and have plenty to eat, but too much of either is as bad as too little. W. A. Lippincott, professor of poultry husbandry at the Kansas State Agricultural College, says these two errors are the cause of much of the difficulty in raising chickens in a brooder.

A place should be available for them where the temperature is about 95 degrees. But this does not mean that they should be kept in that temperature all the time. Let them run out where it is cooler. If they get too cold they will return to the warmer place of their own accord.

TOO WARM? WEAK LEGS.

A careful poultryman does not depend wholly upon a thermometer. He watches the chicks, keeping them comfortable all the time, regardless of

Girls! Grow Tomatoes!

Don't forget the tomatoes, this year, girls. Contests for you—and the boys—have been conducted every year by the Kansas Agricultural College in corn growing, sewing, bread making, and other things. They are not to be neglected this year. The institutes and other committees are urged to have "Tomato Growing Contests" for the girls. Every girl is to have a plot one rod square in which she may set out sixteen or twenty plants; do all the work after the plowing or spading; planting, hoeing, pruning, gathering, and canning; exhibit one can at the local contest with a statement as to number of pounds gathered and the number of cans put up. This can be made a great opportunity for developing lessons of thrift in food production. These contests might be taken up to good advantage by women's clubs in any small or large town, either in connection with the institute or entirely separate. Why should it not be taken up in every village and town school in Kansas, with girls from the seventh grade up? Ask the director of college extension to send you a contest pamphlet.

what the thermometer may register. Weak legs are caused by keeping the chicks too warm.

As soon as possible get the chicks on the ground. Then the heat should be taken away gradually. Don't keep them on the same ground where you have reared chickens before. This is an important precaution. If your last year's chickens had the "gaps," or some similar disease, the germs still will be in the ground, and there is no sure way of getting rid of them.

The variety of grain fed chicks is not so important as the condition of it, Professor Lippincott says. Food which has the least trace of mold should not be given to them. Some of the best poultrymen feed kiln-dried grain to little chickens to be sure there is no mold in it.

HERE'S A RATION.

An excellent food for the chicks is made in this way: Take the infertile eggs—those that have been tested out of the incubator—hard boil them, and grind in an ordinary meat chopper. Mix this with bran and moisten with water. If you have some old, dry bread which has not become moldy it may be crumbled and added to the bran and ground eggs. Do not make the feed sloppy for them or the chicks may gorge themselves.

Many other good feeds, such as fine cracked corn, cracked wheat, cracked kafir and steel-cut oats may be fed. Milk curd and beef scraps makes a good change in the food. These two supply to the chick about the same

food elements it would get by eating insects and worms.

Charcoal, fine grit or finely ground bone should be kept where the little chickens can get it. If it is possible they should be kept on a grassy plot, and if not, green stuff should be supplied them. Alfalfa is the best for this, and clover next. Onion tops, also, may be given them occasionally.

FRUIT TREES AND HENS.

An Excellent Combination, Says Lippincott, If Intelligently Managed.

Where orcharding is successful, there is an excellent chance for a good hand with poultry, says W. A. Lippincott, professor of poultry husbandry at the Kansas Agricultural College. The department recently acquired more land and now, in connection with raising chicks, it has placed fruit trees on the plot and will have a small orchard. The ground has been plowed and prepared thoroughly, and oats and cowpeas sown. The trees are being set out now. Apples and plums are used chiefly, but, for that matter, almost any fruit tree will do.

Chickens especially enjoy small shrubbery. It gives protection against marauders in the day, and it gives them, also, a clean, cool dusting place.

"There is no use," said Professor Lippincott, "of planting forest trees when fruit-bearing trees will serve the identical purpose. But in some cases where a hedge is to be formed it is a good plan to have some close-growing tree or shrub."

Poultry in an orchard will rid the trees of many injurious insects. Roosting in the trees is not a good thing, but if a comfortable roosting place is made, the chickens won't try to use the trees. As a whole, the orchard and the poultry plant are a supplement to each other, and valuable to a high degree if intelligently managed.

AND AFTER DEATH—WHAT?

The Science Club Members Discuss this and Other Interesting Questions.

One subject in which every human being is interested is the chance for something after death. Educated or ignorant, every man and every woman, except in very rare instances, would like to know what is likely to happen after the insurance has been collected. This, as much as his excellent presentation, gave especial attractiveness to Prof. J. W. Searson's address, Monday night, on "Experimental Evidences of an After Life," before a hundred members of the Science Club. No matter how skeptical a man may be in respect to the manifestations or demonstrations of societies for psychical research, he is certain to have a curiosity, after all, to hear just what happened. Probably every one of the hundred who heard Professor Searson's address felt in his heart the world-old desire to know if, when the work and worry are over, there is to be another life.

Professor Searson took up in detail, telepathy, clairvoyance, spiritualism, trance speaking and writing, and others of the occult sciences, holding the closest attention of his listeners as he explained each, and described examples of the various phenomena. When Professor Searson had finished, a very lively discussion followed.

In speaking on "Current Thoughts in Chemistry," Prof. J. B. Whelan reviewed the latest book by Prof. Robert Kennedy Duncan. He spoke of the uses of tellurium, silicon, cobalt, and other substances. He also spoke of the action of radium and of the things which the modern chemist is trying to accomplish, such as the production of enamel that will withstand fire, and a bleaching agent that will not injure fabrics.

Some of the causes of delayed germination of seeds were described by Prof. W. E. Davis of the department of botany. Professor Davis said there were two principal causes of delayed germination: the seed coat being impervious to water, and the condition of the embryo. He also gave interesting data of experiments carried out in the botanical department along this line.

GIRLS IN THE GARDENS.

A CLASS IS LEARNING TO GROW VEGETABLES AND FLOWERS.

Shrubs and Trees for the Yard, and How to Arrange Them, Also Studied—Plants are Potted in the Greenhouses.

More than 80 kinds of trees are growing on the campus of the Kansas Agricultural College. More than 80 girls have tried, this year, to learn the names of some of the varieties. Besides studying trees and shrubs, they learn how to plant and care for vegetables and flowers, how to "lay out" the home grounds, what are the best flowers to plant around the home, and the time to plant them.

The girls are expected to put into practicable use the work taught in floriculture. They will go out from the college all over the state, and into other states, more interested in making homes and cities beautiful. In the domestic science department, future housewives are taught how to make the inside of the home useful and attractive. The work in gardening and floriculture teaches them how to make surroundings inviting and how to make back yards profitable.

THE KITCHEN VIEWPOINT.

Vegetable gardening is taught from the kitchen gardening point of view. Six weeks are spent studying soils, the location of the garden, and cultural directions are given for the planting of radishes, lettuce, parsnips, onions, tomatoes, and other garden crops. After receiving this instruction, the girls are able intelligently to plant a small plot, near the house, from which they may get fresh vegetables of a good quality for spring, summer, and fall use. The last six weeks of the term the girls study landscape gardening—street, park, city, and cemetery planting, and the arrangement of the home grounds. They are required to draw a plan for a city or a country home, locating the trees, shrubs, vines and flowering plants where they will be most useful and give beauty to the landscape.

THE SHORT COURSE GIRLS.

Besides the classroom work, frequent trips are taken over the campus, where a study is made of the different plants. Fifty varieties of shrubs are growing on the college grounds. Eight kinds of maple trees, seven varieties of elm, 14 kinds of oak, and 25 varieties of evergreen trees may be found in a single field trip.

All of the short course girls are taught floriculture three times a week for eight weeks. They study plant propagation, greenhouse plants, and plants for flower beds on the lawn. Practicable experience in sowing seeds, making cuttings, and watering and caring for plants is given. Every girl is allotted a propagating bed in the greenhouse, and a certain number of cuttings is given each to make and set in the bed. Before the term is over these cuttings are rooted. The girls pot them, and when they leave college are allowed to take a few plants of every variety with them.

Lectures are given on the best kinds of house plants and how to care for them. Insect enemies are discussed and their control is explained to the class. The kinds of atmosphere and soil required for plants are investigated in detail. Designs for flower beds are examined and directions are given for planting. The different heights to which plants grow and the spacing of them in the beds are fully explained.

Bronze Lamp Posts From Seniors.

The senior class has ordered four lamp posts, costing \$190 apiece, as a memorial to leave on the campus. They will be placed in front of the auditorium. The posts are made of statuary bronze and have a cluster of five lamps at the top, one upright and four inverted. The words "Presented by the Class of 1912" will be cast on the base of every post. The board of regents has agreed to pay for installing the electric wires and, also, to furnish the power free.

A POND FOR THE LILIES.

EASILY MADE, CHEAP, VERY ATTRACTIVE, AND VERY BEAUTIFUL.

The Versatile Ahearn Gives the Facts and Figures and Tells You How to do the Work—Goldfish, Too.

A water garden in the front yard is a home beautifier. An attractive pond of water lilies, lotuses and water hyacinths is a possibility for any person who can give two square feet of space in the yard, and it will produce many beautiful flowers. Here are a few suggestions on making and caring for the front yard water garden, as recommended by M. F. Ahearn, assistant professor of horticulture at the Kansas State Agricultural College.

A barrel cut in two can be made into a thoroughly practicable "lily pond" for the smallest garden. Cut it to a depth of eighteen inches; fill it two-thirds full of rich, heavy soil and sink it in the ground. This will make a suitable pond for three or four lilies. To obtain a much prettier effect use several barrel-ponds for lilies and plant some water hyacinths and poppies in others, arranging the whole number of barrels in some irregular outline. Have a lawn hose, or windmill, near at hand and give the plants plenty of water.

NOT TOO STRAIGHT.

Larger ponds can be built of brick and cement. These should be dug to a depth of two and one-half feet. The shape of the pond should be irregular, in long, sweeping curves if possible. Avoid geometrical lines. Level the floor of the pond and lay in the bricks, and cement the sides. Arrange for a water supply from the hydrant or windmill by placing a half-inch pipe in the pond, about four inches from the top. The cost of these ponds, of course, varies with the size. Here are some actual construction prices:

FOR A 10 X 24 FT. POND.

Excavating, 1 man and team 1 day.....	\$ 3.50
Masons, 2 men, 2 days.....	14.00
Brick, sand, and cement.....	18.75
Pipe.....	2.00
Total.....	\$38.25

This is a rather large water garden for the common front yard, but it is one that would look fine in the roomy lawns of the farm homes.

FOR A POND 8 X 4 FT.

Adaptable to the majority of yards; the cost is small.

Excavating, one man, ½ day.....	\$ 1.00
Brick, cement.....	6.63
Labor on construction.....	3.00
Pipe.....	.90
Total.....	\$11.53

Provide an outlet to keep the water from getting stagnant. A pipe at the bottom of the pond with a plug-wrench attachment will serve this purpose.

Very little trouble is required to make a good showing in water gardens. Planting of lily seedlings, and of the other plants, is a pleasure. Be careful of the tender seedlings. These should be set out after June 15; the hardy ones in May.

HOW TO PLANT.

Tubers and root stocks are placed directly in the soil at bottom of the pond. Make holes for young plants and keep the mother soil about their roots undisturbed. Plant three feet apart. Seedlings should not be planted with tubers or root stocks. Sow the seedlings in ponds by themselves.

The best soil for the water garden is a heavy sod soil, mixed with cow manure, well rotted, in proportions of three of first to one of the latter. Ground bone is a good compost. Cover all the soil an inch deep with sand. Do not use mud or swamp muck in the water garden.

After planting, raise the water level to from three to four inches above the crowns of the plants, gradually adding more water to keep pace with the growth of the leafstalks, until finally a water level of twelve or fifteen inches is obtained. This process must be performed carefully.

Among the lilies recommended for the water garden are the *Nymphaea tetragona*, *Nymphaea laydekeri*, *N. gladiolifolia*, *N. W. B. Shaw*, and *N. odorata*. For the border of the gar-

den, plant some cannas, hibiscus and aloccasias. In the center of the pond with the lilies may be sown the *Cyperus Papyrus*, the *Nelumbia lutea*, and *Eichhornia speciosa*. Put some goldfish in the water garden. These little assistants will clear out the dragon flies, larvae and fungus that are enemies to the water plants.

PLAN TO KEEP COOL.

Much of the Worry and Perspiration in Hot Kitchens Unnecessary.

Keep cool in your kitchen this summer. It need not be necessary for any housewife to bake and broil and stew away in a hot kitchen if she will only plan a little. And the time to begin planning is now. Keeping cool is largely a matter of psychology. A dirty, disorderly kitchen with flies buzzing about its smoke-grimed ceiling will seem ten degrees hotter than a kitchen kept cool and straight, even if the thermometers in the two rooms register the same.

Begin, then, with keeping out the flies. See that the window screens are in good condition; and screen in the back porch. If there are not enough windows in the kitchen to give good cross ventilation, have another one cut. You can't expect to be comfortable in the summer time without an abundance of fresh air.

If the kitchen walls are dark and discolored with the winter's smoke, have them cleaned and painted with a waterproof paint. This is better than wall paper, since it can be washed when soiled. Choose a soft, restful color, as blues, grays, or greens, which are cool and pretty.

Then be orderly in your work. Have a place for every kitchen utensil and keep it there. Don't let soiled dishes accumulate, but wash them as you go along. Only a thirty-second degree optimist could think life worth living when she has to wash a great stack of sticky, greasy dishes in an untidy kitchen that's warmer than the hot dish water.

Banish hot cook stoves and coal ranges during the summer. With a gasoline stove and a fireless cooker, you can do as much and as elaborate cooking as you wish without cooking yourself.

Don't do any more kitchen work than is absolutely necessary. And plan to do most of it in the early morning while the air is still cool. Early rising pays in the summer time. Work goes quickly and easily when you are fresh and energetic. Then, when the mid-day sun beats fiercely down on the kitchen walls, you can pull down the blinds, and go off to a shady bedroom for a long, refreshing nap. And you can be joyful in the consciousness that your kitchen is clean and straight, and that, thanks to the fireless cooker, your supper will be ready and waiting when six o'clock comes.

Give the Rooster a Chance.

In the current issue of *Farm and Fireside*, a professional chicken grower says that male chickens are often so gallant that they give their portion of the food to the females and get into poor flesh. When this is observed to be the case, little boxes or hoppers of mixed grain and dry mash should be hung upon the walls of the chicken house high enough to be out of reach of the females but readily reached by the males. With these arrangements the rooster is enabled to feed himself without feeling under obligations to turn his food over to the lady chickens.

Spraying Began Last Week.

Spraying demonstrations began in several parts of Kansas last week. C. V. Holsinger, from the agricultural college extension department, began his work at the federal farm and the state prison farm at Leavenworth. This will be Mr. Holsinger's last work in Kansas. He has been appointed head of the horticultural department of the new county high school agricultural college at Milwaukee, Wis. Mr. Holsinger was graduated from the Kansas Agricultural College in 1895. He is a son of Major Holsinger of Rosedale.

WILL BE BUSY AT HAYS.

MUCH WORK PLANNED FOR WESTERN EXPERIMENT STATION.

Several Drouth-Resistant Crops Will be Tested—Ten Acres of Alfalfa, Planted in Rows and Cultivated, a New Experiment.

Three hundred acres of drouth-resistant crops will be planted on the big experiment station farm at Hays, Kan., this spring. In addition, 200 acres of corn will be planted, and 150 acres of alfalfa will be seeded.

The drouth-resistant crops are kafir, cane, and dwarf milo. The varieties of these crops, and the methods of seedbed preparation, are being tested through a series of years. A. M. Ten Eyck, superintendent of the station, who was at the agricultural college last week, believes in diversified farming for western Kansas, and in the production of forage crops for live stock. The drouth of last summer, which cut short all crops, and the severe winter, with the lack of feed, has emphasized the importance of drouth-resistant crops.

ALFALFA IN ROWS.

A new experiment is being started on the alfalfa ground. Ten acres of alfalfa will be seeded in rows three and one-half feet apart, and it will be cultivated. This method of alfalfa production has been successful in some of the western states, and in Egypt. Alfalfa seed is produced very abundantly when the crop is in rows. A great deal of seed is grown at the station.

In the work with winter wheat, Superintendent Ten Eyck desires to promote the sale and distribution of pure-bred seed among the farmers of the state, as well as to carry on experiments in the production and handling of the crop. More than 6400 bushels of pure-bred Kharkof seed wheat, and more than 1500 bushels of seed of other crops, were sold last year to the farmers. The station realized an income of more than \$11,000 from this source.

In wheat culture, the station is carrying on an experiment to determine the value of green manuring for wheat. A green manure crop is grown every other year on the land, and the total yield of wheat through a series of years will be compared with the wheat gotten from the plots that have been cropped continuously. The crops which are being tested for green manuring are rye, sweet clover, and winter vetch for fall seeding, and field peas for spring seeding.

THE U. S. HELPS.

The United States Department of Agriculture is aiding in the work in dry-land farming, and pays the salary of A. L. Hallsted, the assistant in charge of the work. The conservation of the moisture is the principal aim in dry-land farming, and the moisture is being studied to a depth of eight feet, along with an investigation of the soluble plant feeds. Some of these plots were damaged, November 26 to 28, by the blowing of the soil, but not so seriously that the work cannot be continued.

Several patches of bindweed are giving trouble on the station farm. One patch covers fourteen acres. Considerable progress is being made in destroying this pest. The best method that has been found to combat it is very late fall plowing, which weakens and sometimes kills the roots, and the growing of a smothering crop, such as cane, the following year.

The experiments with live stock will be continued. On the farm are about 60 head of mules and horses, more than 100 head of cattle, and about 200 head of hogs. About 350 head of cattle, and 100 hogs, were shipped last fall to the station at Manhattan and fed through the winter.

Don't attempt to wear your stock collar without having it carefully boned, and don't depend on pins to keep it fastened and in place. Buttons and buttonholes or hooks and eyes will answer the purpose much better and are not difficult to adjust.

A Summer School

AT THE

Agricultural College For the Teachers

Summer Term begins June 13 and ends July 25

Agriculture, Manual Training, Home Economics, and Industrial Journalism.

The legislature passed a law requiring all grade and rural school-teachers to pass an examination in elementary agriculture. This law became effective June 1, 1911.

If you expect to teach school it will pay you to invest your spare time, and the small amount necessary to equip yourself properly, in the vocational subjects required by the law.

The Courses Offered

Domestic Science.—Food preparation. Class work 5 hours, laboratory 10 hours per week. Attention is given to method of presentation of domestic science in grade and high schools; to the application of general principles of teaching to the teaching of domestic science; to the planning of courses and equipment of laboratories.

Domestic Art.—Hand and Machine Sewing. Class work 1 hour, laboratory 14 hours per week.

The primary steps of hand-sewing are carefully observed. This knowledge is then applied in the making of a plain or fancy sewing bag, a hemstitched towel, scarf or lunch cloth, an apron, etc. The hand work is followed by practice in taking measurements, and instruction is given in drafting patterns, and making garments by machine. Lectures are given on the history and process of manufacture of the materials used in sewing.

Manual Training.—Woodwork for the grammar grades; woodwork for the high schools; forging; molding and foundry practice; machine-shop work; manual training for primary grades.

Drawing.—Freehand, object, color and design, and mechanical drawing.

Elementary Agriculture.—This course is planned primarily for teachers in the rural and village schools. The subject-matter is selected and the work presented with this end in view. The course covers a year's work in elementary agriculture for the rural and village schools. All laboratory work will be presented in such a way that it can be adapted to the needs of the individual teachers. This course is especially adapted to prepare the teachers to meet the requirements of an act of the last legislature, which requires teachers to take an examination in the elements of agriculture. It includes a study of farm crops, live stock, poultry, farm forestry, soils, agricultural botany, and plant propagation.

General Science.—This course covers economic entomology and zoology, chemistry, elementary physics, electricity and light, vocational education, rural sociology, methods of teaching.

Industrial Journalism.—Ten lectures, especially prepared for teachers, describing the first essentials of newspaper writing: How to prepare copy; news values in town and city; how to prepare a magazine story; newspaper organization; a brief history of journalism, news, agricultural, trade, scientific, educational, commercial, and religious; a few points on libel; high-school journalism. The series is intended only to help teachers who may desire to become correspondents or to add to their incomes by magazine writing.

Other Courses Offered:

English, history and civics; physical education, which treats of this work in public schools, and work in the playgrounds, competitive sports and practical work.

Vocational Education.—The development and significance of vocational education, and a careful study of trade and continuation schools in Germany and other countries, and in this country, with a study of pedagogy as applied to the teaching of vocational subjects in the high schools and in the seventh and eighth grades.

Vocational Guidance.—A study of the need of vocational guidance for pupils in the seventh and eighth grades and the high schools, etc.

Educational Excursions

The college has planned excursions under the leadership of experts to the experimental fields, the stock feeding yards, dairy and poultry barns, the gardens, orchards, the tree-planting plots, and the hog-cholera serum station.

Expenses

The only fee charged by the college will be the regular incidental fee of \$3.00, which the state law requires to be charged of all students who are citizens of Kansas. Nonresident students will be charged a fee of \$20.00 for the first term and \$10.00 for each term thereafter. Board and room may be had for from \$4.00 to \$5.00 a week.

For further information address

H. J. Waters, President

Box E, Manhattan, Kansas.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, May 4, 1912

Number 28

TEST YOUR SOIL FIRST.

FIND WHAT THE LAND NEEDS BEFORE BUYING FERTILIZERS.

You Can Save \$2 to \$5 a Ton in This Way
—Prof. L. E. Call, a Soil Specialist, Tells How to Do It.

You can save from \$2 to \$5 a ton by mixing your own fertilizer. It is a useless expense to apply a mixed fertilizer containing nitrogen, phosphorus and potassium to your land if the soil needs only phosphorus, says L. E. Call, associate professor of soils at the Kansas Agricultural College.

"If the soil needs fertilizing," said Professor Call, a few days ago, "a farmer should determine what elements are needed, and not apply a mixed fertilizer to remedy a single deficiency.

"Any farmer can make the simple test to see what kind of fertilizer is needed for his soil. To make this test, select a plot of ground about an acre and a half in extent, depending on the extent of the experiment—one that is typical of the soil on your farm. If you do not select a tract that is typical the experiment will be worthless for part of the farm. Divide this piece of ground into plots about one-tenth acre apiece, separating them by an alley.

HAVE ONE FOR "CHECK."

"To every one of these plots apply a fertilizer that contains one of the three elements that plants use—potassium, nitrogen or phosphorus. To some of the plots apply a mixture of the elements in different combinations, and reserve one or two plots on which no fertilizer is applied as a check on the others. In this way you can tell whether your soil needs one, two or all of the elements. It is better to use a small grain, such as wheat or oats, for this experimental crop, rather than corn.

"If it is found, upon testing, that the soil is deficient in nitrogen, it is much more profitable to plant alfalfa or cowpeas to supply this need than to apply a fertilizer containing nitrogen. Alfalfa will get from \$10 to \$35 worth of nitrogen an acre from the air, depending on the yield, but a stand usually must be left from four to six years. The full value of this is not realized unless the crop is fed to stock on the farm and the manure returned to the soil. Cowpeas will gather from \$5 to \$15 worth of nitrogen an acre and does not interfere with the regular crops.

BONE FOR PHOSPHORUS.

"Most of the commercial, mixed fertilizers are prepared for the crop to be grown and not for the soil.

"Steamed bone is a good fertilizer to apply to supply phosphorus. Nitrate of soda or dried blood will furnish nitrogen. And muriate of potash will supply potassium. When mixing these elements, nitrogen and phosphorus should be about the same proportion and about one-half as much potassium. Two hundred or 300 pounds of mixed fertilizer should be applied to an acre, depending upon the need.

"If a fertilizer costing \$20 a ton contains only one-half as much plant food as another costing \$30, it will be seen, readily, which is the more economical. How much the fertilizer costs a ton should not be considered; rather how much a pound the plant food that it contains, costs."

SAVE THE OLD FURNITURE.

Very Little of the Present-Day Product Can Compare With It.

The furniture made by the great-grandfathers of this generation was infinitely superior in many ways to the modern machine-cut products of to-day. There was a grace, and ele-

gance, in the lines impossible to obtain now. Even the veneering done piece by piece, in small hand presses, seems better than that done by the gigantic presses of to-day. The hand-wrought surfaces of the solid pieces had a beauty and tone never attained by machine methods.

Go up to the attic or down to the cellar, and if by good chance you find any pieces of old furniture there, bring them out, dust them, refinish them, and you will have furniture the envy of all the women in town.

Ash, white maple, curly birch, black walnut, have a distinct color of their own, and they may be stained to bring out and emphasize this color or tone. Other woods, such as plain birch, pine, white gum, cypress, and chestnut, are more adaptable to heavy staining. A beautiful finish may be given by the use of a mahogany, walnut or oak stain. There is, however, a strong tendency to get back to the natural color of the wood.

The decorative scheme of the room where the furniture is to be used should be kept in mind when deciding upon a stain. A rich cherry stain on bedroom furniture is effective when the room is hung in dark green. In the dining room or library, where it is desirable to have a warm, ruddy color scheme, mahogany is the favorite.

"THE RIVALS" WELL PLAYED.

A Large Audience Gave the Dramatic Club's Offering Its Approval.

It is always a difficult matter in professional undertakings of the stage to get into the mind of the more-than-average man or woman a correct appreciation and understanding of the emotions and conditions produced by the times of—say—a hundred years ago. And this, be it remembered, refers to persons who give every hour to studying the problem, who are accustomed to being "letter perfect" in their parts. How much more arduous, then, was the work assigned to Professor Johnston, who directed the Dramatic Club's performance of "The Rivals," Tuesday night, in the Auditorium! And how well repaid he must have felt, too, when the young men and young women did so excellently. How many persons familiar with stage work have seen a play go through its first night without a "bobbie?" Not many. How many have heard the lines of Sheridan's old comedy better spoken?

Obviously, a reviewer attending a student entertainment of this kind is not expected to criticize. There is no standard upon which he may, with justice, base his writing. It is enough to say that the performance was thoroughly good and that this fact was definitely proved by the audience. The five-act play that can hold 2000 persons nowadays must have some merit besides the smiles and nods of parents and loving friends. "The Rivals" was well done; the students who acted it knew their lines and showed a commendable understanding of the requirements of such a presentment.

An extremely pleasing feature of the evening's program was the concert interpolated by the orchestra, directed by Prof. R. H. Brown. The Ionian Glee Club and Miss Lucile Berry, Mrs. E. P. Johnston and Thornton Hays sang.

Cutting Cookies.

In making cookies, do not roll and cut them out in the old way, but take the whole batch of dough, form it in a long roll about an inch in diameter and cut in one-inch slices with a sharp knife. Place them in the pan about two inches apart, flattening each slice slightly with the hand. The heat from the baking melts the slices to the required thickness and the cookies are absolutely round. This is quicker than the old way and there are no bits of dough left to roll again.

MR. CAPON AS A NURSE.

THE INCUBATOR'S OFFSPRING HAVE FOUND A FAITHFUL FRIEND.

Unlike Other Male Animals, This One Cares for the Young Even Better Than the Female—It Clucks, Scratches, and Starves, Gallantly.

The overworked mother hen is due for a rest. At least part of her labor may be taken away from her. The incubator took from the hen one of the most disagreeable family duties, but it did not save her the arduous care of hundreds of offspring that were not even related to her. Now if she will just "lay around" that will be about all from her. The capon is to do the nursing. Of course you know what a capon is? Well, if you don't know you would better hasten to the dictionary. The definition will not be made here. It is enough to say that the Creator never intended the capon to do the things it is here credited with doing.

REARED 600 WITH CAPONS.

Substituting capons for hens is reported to be very successful, says W. A. Lippincott, professor of poultry husbandry at the Kansas Agricultural College. The capons will take care of the chicks, and they are being used more for that kind of work. George Beory of Cedarvale, Kan., has written to Professor Lippincott that out of 635 chicks hatched this spring and given to capons, 600 are alive and doing well. Better results than this could not be expected from a hen or a brooder.

In the capon, poultrymen have discovered the first male animal that will take good care of the young. In some cases they are even better than hens for this purpose. He clucks and scratches for the little ones and would half starve himself rather than take food from his young charges.

THEY FIGHT MARAUDERS.

Capons are larger, have more loose feathers, and can care for more chicks than can the hens. If you succeed in getting good ones, they will fight off crows, hawks, and other marauders that prey on the little chickens. It is impossible to get a capon to incubate chicks. They simply take care of them. In cold weather 20 chicks are as many as can be protected by a capon, but in warm weather one can care for thirty.

Before giving any chicks to a capon put him in a coop with a covered run, says Professor Lippincott, and leave him there three or four days to get acquainted with his quarters. There should not be any roost in the coop. The capon must remain on the floor. After he gets acquainted with his surroundings, put the little chickens under him at night. Usually he will take to the chicks and look after them in good shape.

Sometimes the new mother will be found the next morning standing on one foot and trying to get away from the chicks. If this happens, the chicks should all be taken away and the capon confined in the coop and kept in the dark as much as possible. It very seldom happens that a capon will refuse the little chickens on the second night.

FOR THE ROAD CONGRESS.

Director Page is to Have an Exhibit That Will be Instructive.

Logan Waller Page, director of the Office of Public Roads, in the Department of Agriculture, is to give a complete exhibit, in the American Road Congress, next fall, of the government's work on the public roads of the country. This is to show how unimproved roads injure farmers, and how improved roads aid not only the farmers but the consumers, also.

Four of the largest associations

now working to improve public roads are consolidating their forces to make the next American Road Congress the most successful affair of its kind in the history of this country. They are, the American Road Builders' Association, the American Association for Highway Improvement, the American Automobile Association, and the National Association of Road Material and Machinery Manufacturers. All these associations have, previously, held separate conventions. It is expected that farmers' associations and other organizations interested in improving public highways will take part in the Congress.

No institution in the country has done more, with the means at hand, than has the Kansas Agricultural College to take to the farmers of the state it serves the lessons of good roads. It sent out special trains, this spring, in cooperation with the Santa Fé and the "Katy" railways, and presented figures that startled the men who heard them. As a result of this campaign, dozens of good-roads meetings have been held in the last month.

THEY'RE GOING BACK.

One of the interesting features in agricultural education in Kansas is the remarkably high proportion of the agricultural college graduates who are going back to the farms. There are many positions in the government service and teaching positions in colleges and high schools that pay \$100 a month that are open, this year, to the seniors, yet most of the farm students have not had enough interest in such jobs even to inquire about them.

Take, for example, the agronomy seniors. Of the 14 men, 10 will go back to the home farms, in June. The other four expect to take some of the positions that are open and stay with the professional work for a few years until they have saved some money, and then they, also, will go to farming for themselves. And the proportions are about the same in the other farm courses: Animal husbandry, dairy husbandry, and horticulture.

So, while the seniors in most of the other courses are putting in some hard work and worry in "landing" a job, the farmers are not fretting about anything of the kind. They know that their future is assured.

One of the students in animal husbandry expressed the situation last week, when he said: "I am going back on the home farm, and I am going to farm it right. I don't want a job working for someone else. I can make two dollars on the home farm where you can make one dollar in any professional work, and I will be my own boss. I am going home."

It is a mighty fine thing to be able to say, "I am going home." And it means a great deal for the social and economic welfare of the rural civilization in Kansas. These young men will do much to aid in the development of the new ruralism.

An Honor For Headlee.

The president of the American Association of Economic Entomologists has appointed Prof. T. J. Headlee chairman of the committee on entomological investigations. It is the business of Professor Headlee's committee to prepare a list of the entomological investigations now going forward in the state institutions of the United States and Canada, to furnish copies of this list to all the entomological investigators in these institutions, and to work out ways in which these studies may be correlated to the best advantage. By this movement it is hoped that useless duplication may be prevented and every investigator may have immediate advantage of the results achieved by others.

DON'T BE LATE AT MEALS.

IT CAUSES LOTS OF HARDSHIP IN THE KITCHEN, MEN.

Your Reasons for Being Late Usually Are Trifling—And if Meals Are Not Always Served on the Dot There's Grumbling.

Why is it that farmers usually are late at meals? No matter how early a farmer rises, and how soon he begins his morning chores, something almost invariably happens, just at breakfast time, to keep him away from the house fifteen minutes longer.

Breakfast is all ready for the table, and he knows it, but that makes no difference. The biscuits burn and the eggs get cold and leathery, and the coffee boils too long, and the farmer's wife goes to the window and looks vainly toward the barn, but still he doesn't come.

"GREAT GOODNESS, MOTHER."

She can't start any other work, for as soon as it was well begun in would come Mr. Farmer grumbling, "Isn't breakfast ready yet?" And when they sit down to the belated meal, its ten to one he will say the biscuits aren't like mother used to make. Is it any wonder so many farmers' wives go insane?

The other meals are no better attended. Out in the field, something about the machinery breaks just before noon, and of course the repairing couldn't be left till after dinner. Or may be there are just two more rounds to go, and it wouldn't do to leave them until to-morrow, even if it is already past quitting time. But the meals must be ready just on the dot—you bet—it doesn't put a woman out to wait a little nearly so much as it would a man.

There really is no valid reason against having supper before the milking is done, and doing it would enable the farmer's wife to get out of the kitchen a few minutes before bedtime. It's a crime for a woman to have to wash her supper dishes by lamp light after a long summer day's work, but any number of farmers' wives do it.

CLUBS FOR THE WOMEN.

The movement to make farm life attractive is an excellent thing. Clubs for farm women, electric lights and bath rooms are all very well in their way, but having regular hours for quitting work and being on time to meals would go farther towards making life easy for your women folk than all the hot water pipes and electricity ever invented. It's such a simple thing you probably never thought about it, Mr. Farmer, but it's true. Just try it awhile and see.

Onaga Won the Track Meet.

Onaga won the second annual track meet of the Fifth Congressional District held on the athletic field of the Kansas Agricultural College last Saturday, with 34½ points. Alma and Maple Hill tied for second place with 24 points each. Junction City was third, with 21½ points, and Wamego, fourth, with 18 points. Concordia, Chapman and Manhattan had representatives in the meet. Silver medals were awarded to the winners of the thirteen events and bronze medals were given to those taking second place. A banner was given to Onaga for winning the meet.

Orange Salad.

Remove rind and all inner skin from oranges and cut into sections. Drain well and mix with half its bulk of cut celery and pecans cut into strips. Serve on lettuce leaves. Make a French dressing with a teaspoonful of salt, ½ spoonful of paprika, 6 table-spoonfuls of olive oil and 2 of lemon juice, and mix well with salad.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MAY 4, 1912.

BEST ROOMS FOR FARMERS.

Many Kansas country towns are not giving the farmers who trade there a square deal. These farmers maintain most of the town with the wealth they produce and spend and they have a right to demand that their welfare shall receive some attention.

Every country town should provide a rest room for the women and girls of the country families who come to town for the day's shopping. In some towns, these rooms are maintained by the merchants, who believe the increased trade always much more than pays for the cost of maintaining the rooms. This is done at Excelsior Springs, Mo. The women of the town provided the money for the project.

These rooms should contain magazines and papers. There should be a kitchen, where meals may be prepared, if desired. A competent woman should have charge of the room.

Then, the farmers should demand that plenty of hitching posts be placed on the streets. They need not be on the main street, but can be placed on the side streets nearby. These posts should be well placed in the ground, so the horses will stay "anchored" until the farmers desire to go home.

Judging from the conduct of the county merchants in some towns, they believe the farmers exist solely for the merchants' benefit. Frequently the price of farm produce, such as butter or eggs, is forced down lower than it should be, while the prices of the things the farmers have to buy is boosted skyward.

Farmers have a right to demand that goods be sold to them with a reasonable margin of profit, and that their rights and comforts shall be respected when they come to town. If these advantages are absent, farmers should trade at some other town.

F. B. N.

WHERE IS KANSAS? II.

Rhode Island, the smallest state in the Union, with an area of only 1250 square miles, ranks first in its percentage of improved roads. Under the direction of Secretary Wilson, a very comprehensive statistical investigation of the mileage and cost of public roads in the United States has recently been completed by the office of public roads, United States Department of Agriculture. This document reveals many interesting facts. Thus, apparently, it is not because of its small size that Rhode Island is able to boast of 49.14 per cent of improved roads, for Delaware, with an area of 2050 square miles, has only 6.22 per cent of improved roads. Massachusetts, with an area of 8315 square miles, has 49 per cent of its roads improved, or very nearly the same percentage as Rhode Island. The size of the state, therefore, seems to have little or no effect on the percentage of improved roads.

The investigations further show that there are 2,199,645 miles of public roads in continental United States. Of this vast mileage, only 190,476, or

8.66 per cent, are classed as improved. Rhode Island leads with 49.14 per cent of improved roads, while Massachusetts is second with 49 per cent. Indiana follows with 36.7 per cent. Ohio, Connecticut, New Jersey, Kentucky, Vermont, and California follow in a descending order, the latter having 17.87 per cent of improved roads. Wisconsin, New York, Maryland, Utah, Tennessee, South Carolina, Maine, and Michigan range in the order given from 16 to 10 per cent.

Alabama, Delaware, Florida, Georgia, Illinois, Minnesota, New Hampshire, and Oregon have between 5 and 10 per cent of their roads improved. Of the twenty-two states with less than 5 per cent of improved roads, North Dakota stands at the bottom with only 0.23 per cent.

ECONOMY ON THE FARM.

There is far too much waste on the average farm. Often the work is not planned. Men trot all around the farm, making great efforts to do work, but not getting very much actual work done. The buying of grade stock or cheap implements may be necessary at times, but it is poor practice. The building of cheap sheds never pays. Many little things count more than they might seem. A cut on a colt's leg from a loose wire may lower the animal's selling price \$75. Going a long distance for water is wasted effort when a few dollars' worth of piping, or the digging of a well, would save hours of time; allowing the fences to get out of repair with the possible chance that the stock will destroy a crop or even kill themselves; wasting the manure: These are a few of the things that may be considered in studying economic conditions on the farm. It is not so much for what the farmer sells his different products as how great is the profit. This is the basis of success on the farm. L. T. P.

WHEAT, THE MONEY CROP.

A big opportunity in seed wheat production is before the farmers in the soft wheat section of eastern Kansas. Soft wheat has not been bred so carefully as hard wheat, and it is very hard to get seed that is reasonably pure. There is a good demand for pure, well-bred, soft wheat, at prices that will well pay for its production.

Kansas raises hard wheat, mostly, but there are sections of eastern Kansas where soft wheat will produce the more profitable crop. Crop rotation is being practiced in that section to a greater extent than ever, and this has increased the demand for good seed wheat. Most of the soft wheat is a mixture of strains and varieties, and the farmers don't get the yields they could get if they used pure, high-yielding seed.

How much do the farmers get for wheat, at ordinary commercial prices? Usually 85 cents to \$1 a bushel, depending on the year and the quality of the grain. The farmers who are producing the high-grade seed wheat are getting from \$1.50 to \$2 a bushel, and more in some cases. It costs a few cents more to produce high-quality seed, over the common method, but the extra cost is a small fraction of the increased price. If you desire to get the most profit out of your wheat raising, get good seed, take care of it, and produce seed for sale. F. B. N.

TOWNSHIP ROAD FUND.

Considerable difference of opinion has existed among county attorneys in regard to the township levies.

Section 34, Chapter 248, of the Session Laws of 1911, reads in part: "That for the purpose of carrying out the provisions of this act the highway commissioners shall recommend to the county commissioners of each county, the first day of August, annually, a levy of not more than three mills on the dollar on all the property in such township; . . . provided, that at least 75 per cent of all moneys collected under the provision of this section for road purposes from the taxable property in every township shall be used to improve the rural route and township roads within such township. . . ."

The attorney general's opinion is:

"This does not mean that the remaining 25 per cent collected shall be diverted to other than road purposes, but simply makes it mandatory upon the authorities to spend at least 75 per cent of the taxes so levied in improving rural routes and township roads. Nowhere is this section subject to the construction that the remaining 25 per cent can be used for other than road purposes."

"Chapter 256 of the Laws of 1909 is not, in my judgment, repealed by Chapter 248 of the Laws of 1911. Section 2, Chapter 256, of the Laws of 1909, provides for the levy of a tax to create a special fund for the specific purposes therein mentioned, and I see no conflict between the two, nor any reason that both acts cannot stand or why a tax cannot be levied under Section 2, Chapter 256, of the Laws of

and unimproved. It is figured that the percentage will have to be increased to 20 before traffic can be moved throughout the country with the minimum of wear and tear on horses, wagons, and motor cars.

The French system of roads, long considered the best in the world, was bonded by Napoleon III for six million dollars, and nearly \$612,775,000 has already been spent on that system. In this country, owing to the great distances, it is probable that close to two billion dollars will have to be spent before a proper road system is developed.

It may be many years before Kansas farmers will admit the economy of highly improved roads. In the eastern part of the state the truth already has been accepted by some. It is proved by history that he who gets

Writers of History.

As far back through the mists of history as man can search, someone, a little keener than the ordinary run of mortals, has been telling the news, recording the doings of men, describing the world's development. Beginning, if you will, with the tablets of ancient Rome or the wooden types of the Chinese, a thousand years ago, down through the ages to the linotype and the sextuple presses of the Kansas City *Star* and the wireless, through all the years that have gone with the wonderful story of accomplishment, always the newspaper—the reporter—has been the faithful recorder of events.

With allowances for haste, and the fallibility of the average human being whom he encounters, the reporter has been the greatest historian of all time. His writings influence more men than do the writings of all the book makers; he speaks to a larger audience in a day than do a dozen of the average authors of "Best Sellers." He has this influence because he writes the English of the people, the spoken tongue. He may split an infinitive occasionally, but you know just what he means. He may take liberties with English, but it is his to use, and you read it with a smile. You may snarl at him, but you vote his way, nine times in ten, when election day comes 'round.

You can do without your supper or your cigar, but you will walk blocks to get your home paper. And then you hold back your subscription until the last moment and growl if the editor turns down your obituary doggerel. Strange world, isn't it?

C. D.

1909, and also under Section 34, Chapter 248, of the Laws of 1911."

The townships, therefore, can now make a levy of three mills for road and three-quarters of a mill for general purposes, making a total of 3 3/4 mills.

ROADS—ROADS—ROADS.

That the nation-wide movement for the improvement of the public roads involves a large undertaking is indicated by information just made

A Golden Text.

Boast not thyself of tomorrow; for thou knowest not what a day may bring forth. Let another man praise thee, and not thine own mouth; a stranger and not thine own lips.—Proverbs 27: 1, 2.

public by the U. S. Department of Agriculture. Secretary Wilson shows that 300,000 miles of road must be improved before the public road system can be considered really efficient.

It is only within recent years that the movement for better roads has gained force. There are now only 190,476 miles of improved roads in this country. These improved roads constitute 8.66 per cent of the total mileage of all public roads, improved

signatures for a mile of road must work hard and intelligently and with extreme patience; and that is just what the highway department of the Kansas Agricultural College is doing and intends to do in the future.

While the amount necessary to perfect a great road system seems fabulously large, it does not seem so large when it is divided among the states and spread over a period of five, ten or fifteen years. When it is considered that New York state has bonded itself for 50 millions, and that five million dollars a year is now being expended by that state, it will be seen that a nation-wide system might soon be perfected were all states to progress as rapidly.

New York heads the list of states which have made the greatest progress in road building between 1904 and 1909. That state has built 6911 miles of new road in that period. Georgia is second, and has built 4344 miles of road in the five years. The gain in Georgia is largely attributed to the use of 4500 prisoners on the public roads of the state. South Carolina, Alabama and Florida have also made great gains by building sand-clay roads; and this is a very cheap and satisfactory type of road building.

The bigger the ears of corn when they are put in the silo, the bigger the milk flow will be when the silage is fed.

Gone to School.

It's lonesome in the stable-yard and where the chickens "peep,"
It's dull and stupid 'round the house, the kitchen's fast asleep;
Old T. n' s' n' n' n' everywhere and huntin' 'round the place.
Comes back to whine and paw my knee and look up in my face;
And Mother, in the kitchen there, amongst the pans and things,
Is busy, but I haven't heard the song she always sings:
There's somethin' missin', somethin' wrong,
That spoils the work and play—
And don't I know it? Well, I guess! He's gone to school to-day.

He started out at ha'f past eight, all rigged up in his best,
And with the slate beneath his arm, the books and all the rest;
And Mother fixed his tie once more, and did her best to smile,
And I stood by and praised him up and laughed about his "style."
But when he marched off down the road and stopped to wave good-bye,
'Twas kind of choky in my throat and misty in my eye.
Proud of him? Well, I rather guess! And happy, too—but say!
It's mighty lonesome 'round the place—he's gone to school to-day.

But 'tisn't jest the lonesomeness that ails us, don't you know;
It isn't jest because he's gone till four o'clock or so;
It's like the little worsted socks that's in the bureau there,
It's like the little dresses, too, that once he used to wear.
The thought that something's past and gone, outgrown and put away—
That brings to Mother's heart and mine the bitter-sweet to-day:
It's jest another forward step in Time's unchangin' rule—
Our baby's left us now for good; our boy has gone to school.
—Joseph C. Lincoln in *New England Farmer*.

SUNFLOWERS.

What has become of the Allen "im-broglio" in Virginia?

They still "lay away" the "mortal remains" down at Garnett.

Well, anyway, Mr. Stead's doubts have been set at rest. He knows—now.

If someone had asked to have Mr. Yamsi "paged" on the Titanic, those fifty bellboys might have been saved.

It sometimes takes years to prove a man a fool. Senator Smith did it with just a few questions in the Titanic inquiry.

By the way, have you read the feature story: "Why He Was Late," now running in all the weeklies? Great. Read it.

The business of press agenting is indeed falling far in the scale when a story about Eva Tanguay's stolen jewels can get past.

If husbands and wives spoke to each other as pleasantly as they speak to some yaps on the telephone, there might be fewer family jangles.

The homeopaths, we notice in the well-beloved and deeply revered Kansas City *Times*, "Want In." It's hopeless, men; there'll be no strike to-day.

The Prairie Hall boys "Crossed bats" with the Valley boys, Thursday, according to the Allen County *Journal*. A good time was reported and the score was 17 to 7.

A picture in the Kansas City *Times*, one day last week, showed the Roman forum in which famous orators once performed. Also, it showed men turning handsprings. This feature has been retained to the present day.

The conclusion is inevitable that a large fleet was near the Titanic when it sank. The number of ships that passed "too late" is exceeded only by the number of persons who had intended to sail on the "ill-fated monster."

We cannot refrain from mentioning, in passing, that the Mysterious Stranger seems to have bought a lot and settled in Missouri. Incidentally, W. S. Cowherd ought to be careful, this time, about giving up his lease in Kansas City.

The story about little horses, told by David Buffum in *The Country Gentleman*, recently, was great. But there are enough fake medicine advertisements to trap the unwary reader without David putting over anything like this.

Senator Smith, to Officer Lightholder: Which way was the Titanic going when it sank? Careful, now.

Lightholder (amazed): Why—ah—down, sir.

Senator Smith: Describe the sound the ship made in sinking.

Lightholder: I really—can't do that, sir. You might call on the *New York Journal*.

ROSES ON YOUR WALLS?

ATTRACTIVE WALL PAPER SHOWS
BAD TASTE, MISS WEEKS SAYS.

The Paper Should be Only a Background
for Good Pictures and Furniture
and People—"Avoid Red
Colors," an Axion.

Wall paper should not be made to attract attention, but rather to be a background for the really attractive things—the pictures, furniture and the people—if they be attractive. If the wall is made to look as if a young vineyard had been started in your dining room, or a garden of roses had been transplanted to the living room, then the real purpose of the wall is destroyed.

Miss Ella Weeks, instructor in color and design in the Kansas Agricultural College, was talking a few days ago about the real motive of wall paper and how brutally it was treated by the majority of housekeepers, who insist, every spring, on freshening their homes by getting new paper.

HIST! BE CAUTIOUS.

Some homemakers, she says, wish the wall paper to be more attractive. There is a way to accomplish this without destroying the flatness which you desire. Possibly you have chosen plain paper. If so, use a heavy and fantastic border. Should the wall paper be heavy and embossed, do not, if you value your reputation as a judge of the fitness of things, combine a very heavy and noticeable border with it, or the room will be ornate.

Or, to get away from such a very severe plainness, a panel effect may make your living room charming. For these, tapestry papers may be used, which give the effect of woven fabric. There are also very good panel effects in oatmeal papers. The plain and two-toned papers make the best background for pictures and furniture. They are restful to tired eyes and sensitive nerves.

SOFT GREENS AND BROWNS.

The new spring colors, according to Miss Weeks, are not absolutely new ones, but there are new ways of combining colors that are delightful. Soft greens and browns are agreeable. If the house seems to be lacking in light, use yellow and tan tones. "Avoid reds in wall paper," is a maxim that every homemaker needs to learn by heart.

Should panels be used, the effect of plain paper with a narrow border in a harmonizing color outlining it, is pleasing. The doors and windows also may be outlined with a narrow molding.

For the bedrooms, if you like an old-fashioned flower garden with hollyhocks and marigolds and wisterias, or roses galore, blooming in every possible and impossible way, so be it. Here is where you may consider your personal taste instead of the entire family. But all these papers should have a subdued softness and beauty of tone. That makes the wall a restful and lovely color-harmony.

CATALPA SPECIOSA FOR KANSAS.

Forester Scott's Bulletin Tells How These
Trees May be Grown Profitably.

The "catalpa speciosa" is the only catalpa that should be planted in Kansas, says C. A. Scott, state forester, in Circular No. 20, just issued by the experiment station of the Kansas Agricultural College. This species may be told, chiefly, by the seed. The trees should be planted between April 1 and May 15. The deep, rich soil found along creeks and rivers is best suited for the catalpa. Gumbo, poorly drained or high, dry soils are not satisfactory.

Some farmers plant the trees seven feet apart in the rows with a space of three and one-half feet between the rows. At the end of seven or eight years, every other row is cut, leaving the trees seven feet apart each way. Others set the trees six feet square and plant a row of corn, or similar crop, between the rows of trees for the first year or two.

Catalpas should be cut when sixteen to eighteen years old. Otherwise,

a fungus growth may attack them, making them useless as fence posts. A second crop can be produced from the stumps, if desired.

The trees should be well cultivated. No grass or weeds should be allowed to grow. If the field is clean, there is less danger of damage from fire and rabbits.

The total cost of producing an acre of catalpas, counting compound interest on the investment, cost of trees, labor for planting and harvesting, varies from \$186.83 to \$272.99. It is not probable that the average farmer can make money from catalpa growing if he must pay \$270 to produce the crop. Sometimes as high as \$500 an acre is realized from the sale of catalpas.

The catalpa makes an excellent fence post if dried six or nine months before putting in the ground. In some cases, the trees will be tall enough at sixteen years to make shed or telephone posts.

Mr. Scott's bulletin will be sent on request.

ALUMNI NOTES.

T. E. Clarke, '10, is visiting at the college this week. Mr. Clarke has had charge of a herd of Shorthorn cattle at Hutchinson, Kan. This herd has been dispersed, now.

Milton Snodgrass, '06, is with the government experiment station at Kodiak, Alaska. He visited at the college a few days last week while on the way to Minnesota and Michigan to buy dairy cattle to be shipped to Alaska.

The 1912 class dinner of the Michigan College of Mines was held last evening at the Douglass House. The occasion was dignified by the announcement by Dr. F. W. McNair of the appointment of a successor to the chair of mechanical engineering made vacant by the appointment of Professor Hood to the position of chief mechanical engineer of the United States Bureau of Mines. His successor will be Prof. George L. Christensen, formerly assistant professor of mechanical engineering at the college of mines. Professor Christensen was not a candidate for the chair, but will accept. He was the final choice of some thirty men, and the fact that the choice should have fallen upon a man previously identified with the Michigan College of Mines is regarded by college men as a happy circumstance, said Doctor McNair:

"With the full knowledge of Professor Hood, and of the chairman and other members of the board of control, I have actively sought for the best man I could find to become head of the department of mechanical engineering.

"There have been plenty of applicants, some thirty, in fact. All received consideration, and nine or ten of them have been interviewed by me personally. I have proceeded, as nearly as might be, on the theory that it is my duty to get the best man possible, quite irrespective of personal sentiments or considerations.

"Without going into the details of my investigations, which have occupied a good portion of my time and thought this winter, let me say that my choice finally narrowed down to two men, one of whom was not an active applicant, but who would take the chair if offered to him. After weighing the matter for some time my choice finally fell on this man, and yesterday on my recommendation the board of control elected head of the department of mechanical engineering Prof. George L. Christensen."—*The Mining Gazette, Calumet, Mich.*

Professor Christensen was graduated in the K. S. A. C., class of 1894. He is a brother of J. C. Christensen, financial secretary of the college.

Plum Pudding.

One pound beef suet, 1 pound raisins, 1 pound currants, 1 pound sugar, 1/2 pound bread, 9 eggs, 1 nutmeg, the rind of a lemon and a little candied lemon. Mix the whole with brandy and boil five hours.

THE CALL OF OUTDOORS.

WOMEN IN HOT KITCHENS HEAR IT.
YOU BET.

One Found Pleasure in Tending a Small
Garden Last Year—Luncheons in the
Country Three Times a Week
for One Family.

The longing to get out of doors, to live in the sunshine and to dig in the dirt comes with every spring. This feeling is not confined to the urchin who sneaks away from school these days as naturally as a squirrel climbs a tree. The housewife—who, after all, is human—finds herself casting wistful glances out through the open door.

Some women haven't the courage to go out of doors for exercise without an orthodox reason, fearful of what Mrs. Next Door Neighbor, who is still in her kimono and curl papers, will say. So the busy housewife invents excuses to go outdoors. She will do her own marketing, she decides, instead of ordering over the telephone.

INTO THE GARDEN.

Or, she goes into the back yard in the morning, early, and puts in some garden, so that her table can be supplied with early vegetables. She gets out into the open air whenever possible and tends that garden. It gives her a satisfied feeling that she has accomplished something.

Then there are the summer picnics that are so enjoyable. The mother takes the little ones, if the father cannot go, and they walk away out in the country to the spot they know. She takes her camera, for she has found she can earn a little money by taking pictures and making them into little books.

One family took the old family horse, and an ancient but comfortable carriage, last summer, and the mother and children drove past the office in the evening and got the father to go with them to the woods, where they would take supper. Three times a week they did this, and no one received more pleasure and benefit from these simple outings than did the housewife. No one knows the joys of frying ham and eggs and making coffee on a camp fire until he has tried it.

EATING OUTDOORS.

During a trying fruit-canning time one mother conceived the idea of taking the meals out of doors. The children were delighted with this, and made journeys into the woods and fields gathering flowers to make the table look pretty. Then they helped to bring the dishes out and arrange the table.

What did it matter if Johnny did stub his toe and spill the salad just as he came to the gate? And the bugs and flies were offset by the breezes and the fresh air and the singing of the birds, and—yes—the little boy belonging to Mrs. Next Door Neighbor peering through the fence palings with wistful eyes.

MUST DRILL ONE YEAR.

After That, Physical Training May Be
Substituted.

The board of regents has revised the requirements for military drill. Under the new ruling, which will be effective this fall, all preparatory students will be required to take physical training. This may be substituted for the physical training or military drill required in the regular college course, if the student desires. All men students entering as freshmen will be allowed to substitute physical training for military drill in their sophomore year. But all must drill in the freshman year.

Women students entering as freshmen will be allowed to substitute music for physical training in their sophomore year. But one year of physical training is required.

All men who enter as sophomores will be required to drill during their sophomore classification. No requirements are made for those entering above the sophomore year. One year of drill meets fully the requirements of the Department of War.

The deans are authorized to sub-

stitute regular courses in cases of physical disability that would prevent students from taking drill or physical training. This rule does not apply to those students now in college, who will be required to continue under the old ruling.

The work in physical training will be for three or four hours a week, as teaching facilities permit.—*The Students' Herald.*

"SLAVES OF AMERICA."

A Few More Raps for Father from a
Farmers' Paper.

In a recent issue of *Farm and Fireside*, Clifford E. Davis, writing what he calls "The Slaves of America," compliments farm mothers and criticizes many farm husbands in the following language:

"Here's to the real slaves of America! To the farm wives and mothers who work hard from before day until long hours after dark, for their board and clothes, without pay and with few outings! And here's wishing that I could drive the stingy, overbearing hubby in the cornfield with a black-snake whip on a blistering day in July, with water all gone and no shade! The fetters may be gilded with thoughtless or unseeing love, or hidden by the flowers of devotion and duty, but they are no less there and no less strong. You all have heard of the school-teacher who 'tired of working from nine until four, married a farmer and worked from four until nine.' Open your eyes, reader! Of course, the work has to be done, but is it fair for one to work incessantly? Let the daughters and sons help in the work. If there are no children old enough to work, drop a few unnecessary and hire a girl to help, and give the slave-mother a rest or an outing!"

ABAS THE CODLING MOTH.

New York Loses Millions Every Year Because of this Little Pest.

In one of the magazines—the name has been omitted from the clipping—this is found:

"The codling moth: How much do you suppose New York state alone pays every year for the privilege of having these insects live happy lives in their apple crop? This has been estimated at three million dollars per year; and if New York pays this much for having wormy apples, think of the cost yearly to the whole United States! And all this great loss is entirely unnecessary. If the boys of the farm would take hold of the matter, they might save enough fruit in this way to pay their expenses at some agricultural college."

The Next Dairy Show.

At the recent annual meeting of the National Dairy Show Association, the directors and officers whose terms had expired were reelected. The board of directors was increased by the addition of F. L. Ames, Massachusetts; J. R. Valentine, Pennsylvania; C. D. Ettinger, Illinois; John L. Smith, Washington; Robert Scoville, Connecticut, and Arthur G. Leonard, Chicago. The date for the Dairy Show was fixed for October 24 to November 2 for this year's show and as a permanent period for all future expositions, and the International Amphitheater has been leased.

Prunes With Dumplings.

Three eggs, three cupfuls of flour, half a teaspoonful of salt, one heaping teaspoonful of baking powder; beat the eggs light; add the flour mixed with the baking powder and a little water to make the dough slightly thicker than for cake; drop a spoonful at a time into prunes when cooking; stew a quantity of prunes quite soft; have plenty of water which has been added when cooking; then add butter and sugar enough to suit the taste, and flavor with nutmeg. Do not stop the boiling while dropping in the dumplings.

Many a man who complains that he never had half a chance wouldn't recognize a whole one if he saw it.

BE A COURTEOUS GUEST.

VISITING IS AN ART AND YOU MUST
STUDY IT.

Don't Be Afraid of Being Too Enthusiastic; If You Think the Home is
Pretty, Say So—Praise
the Cooking, Too.

Visiting is as much an art as is entertaining, and successful guests are as rare as successful hostesses. Look back over the various persons who have accepted your hospitality in times past and say candidly how many were ideal guests. Not a very great number, is it?

There was the woman who was so fussy nothing seemed to please her, and the one who made you feel your possessions and your household arrangements were far inferior to her own. Another guest required such constant entertainment you never had a moment's peace; and still another spoiled the children.

SPEED THE PARTING?

More times than one you were almost tempted to speed the departing guest with the small boy's taunting, "Come again when you can't stay so long." Now, weren't you? And yet, anyone of these persons could have been an ideal guest, for successful visiting is only a matter of a little tact and consideration for others.

When you go a visiting, have your mind made up that everything will be lovely and that you'll have the finest kind of time. Don't be afraid to be enthusiastic. If you think the home is pretty, say so. When your hostess does some little thing for your pleasure, tell her how much you appreciate it. Have pleasant words for everyone. Laugh at your host's stories, no matter how often you've heard them before. And don't forget to praise the cooking.

OH, WELL.

The "cook lady" who rules the kitchen likes praise just as much as you do. She wouldn't storm so when the mistress announces company's coming if more guests made it a point to slip out into the kitchen a moment to tell her how delicious the pudding was, or how the cake would "melt in one's mouth." Ask her for the recipe, and while she's telling you, pick up the dishtowel and dry the dishes for her. Don't fear to shatter the conventionalities of society life.

A successful guest always fits into the household arrangements where she visits. She is never late to meals, and never keeps the others waiting when they have planned to go out.

She tries to make as little extra work as possible. She never leaves her belongings strewn about the house for someone to pick up after her. Unless there are several servants, she always keeps her own room in order, and she helps about the housework in a dozen and one little ways without seeming officious. But never, in her offers of help, does she let it seem that she disapproves of the methods used in the household, and she never forces her assistance upon her hostess when she sees it is not desired.

AND BE GRATEFUL.

When you are visiting, never accept invitations without consulting your hostess. And never make plans of your own without first making sure they will be agreeable to her. Enter into her every plan for you as if it were the thing, above all others, you most wished to do.

Don't expect to be entertained all the time. Your hostess wishes to have some time to herself. Plan to write letters, read, or otherwise amuse yourself in your own room part of every day.

When you come to your friend's home, bring her some inexpensive little gift—flowers, a box of candy, or a late book; and when you leave, be prompt about writing your "bread and butter letter."

Not much to it after all, is there? Just little things, but if you do them you'll not lack for places to visit this summer, and all your hostesses "shall rise up and call you blessed."

A CLASS WENT VISITING.

STUDENTS IN GRAIN PRODUCTS INSPECTED PLANTS IN KANSAS CITY.

Two Days Were Spent Investigating Buying and Manufacturing Concerns—Saw Laboratory of U. S. Grain Standardization Office.

Ten students from the class in grain products, with L. A. Fitz, professor of milling industry, went to Kansas City, between terms, to study at first hand the way grain and grain products are handled. They stayed there for two days.

The first plant visited was the Loose-Wiles Biscuit Company. This plant gives special attention to the manufacture of wafers and candies. The class spent several hours going through the establishment. The students then went to the laboratory of the United States Grain Standardization office, where they were especially interested in the moisture tests of grain. The class had spent considerable time in the study of the moisture content of grain, and notes were taken on the way the moisture tests were made. The office men carefully explained the work of the bureau, and three of them went with the party on the visit to the other plants.

THE BREAD MAKERS.

Smith's bakery was the next plant visited. Here the machine for the regulation of the moisture content and the heat of the air and the bread wrapping machine were the principal things of interest. The class followed the course of the bread from where it entered the bakery as flour to where it left as bread in the delivery wagons. Warneke's Bakery then was inspected. The interesting features there were about the same as those in the first plant.

The class then went to the plant of the Kimball-Sawyer Milling Company. This plant gives much attention to the grinding of corn. After leaving the mill, the class had just enough time to go through the Frisco elevators before the end of the first day.

Early the next morning, the party went out to the office of the Kansas grain inspection department. Here the students saw the way the grain was inspected and handled. They went out on the tracks with the inspectors, and took notes on the way the cars are sampled. This was one of the most interesting features of the trip, as every member of the class expects to farm, and have wheat of his own to sell some day. After leaving the inspection tracks, the terminal elevator of the J. Rosenbaum Grain Company was visited. Here the machines for clipping and bleaching oats and for drying corn were the principal items of interest.

ON 'CHANGE.

The students then went to the Kansas City Board of Trade and spent two hours in the grain pit. J. E. Rohm, of the E. D. Fisher Grain Company, showed the students through the pit, and gave them an account of the way the business of the pit was conducted. The immense plant of the National Biscuit Company then was visited. This factory has been enlarged recently, and 500 barrels of flour are used every day, when the plant is run to its full capacity. In the afternoon of the last day, the class visited the J. E. Kidder Mills.

Professor Fitz expects to take all of his classes in grain products to Kansas City in the future, on similar tours of inspection.

The Engineers' Circular Letter.

The mechanical engineering students of the class of 1910 keep in touch with one another by using a circular letter. The letter has just reached Manhattan on one of its regular trips. There were seven mechanical engineers in 1910, three of whom are in Manhattan. These three are: A. R. Losh, assistant in highway engineering for the extension department; F. E. Wilson, assistant in gas engineering; E. H. Dearborn, senior student in the electrical engineering department. The other four men are: Floyd Harrison, in charge of mapping and construction for the American Steel

Foundries, Alliance, Ohio; Edward Skillman, at home at Tribune, Kan.; Frank Newacheck, in charge of mechanical drawing and cabinet work at the Kansas State Industrial Reformatory, Hutchinson, Kan.; H. E. Rowe, instructor in Pennsylvania State College, State College, Pa.

NOW THE CUT WORM.

Insect Pests Will Keep Farmers on the Jump This Year.

Farmers will have to hustle to keep ahead of the pests this summer, says Dr. T. J. Headlee, bug expert at the Kansas Agricultural College. The field caterpillar, or variegated cut worm, has arrived. The forest tent caterpillar and the canker worm are already scheduled for the unsprayed apple orchards, and now the cut worm is beginning work in the alfalfa fields.

The full-grown worm is cylindrical, about one and three-fourths inches long by one-fourth of an inch thick. It varies in color from dark to pale. The dark form is a dull brown with a greenish tinge mottled with gray and smoky effect. The ventral surface is much paler, dull gray, often with a fishy color. The head is reddish yellow with black. A broad, incurved band of black runs from top to bottom on each side of the front, forming an incomplete capital H. These markings are indistinct or not present in the paler forms. The cut worm is the same that did great damage to wheat and alfalfa in the southeastern quarter of Kansas in 1909. It has done no great damage since then.

Hogs and chickens eat these cut worms eagerly. Hogs turned into the alfalfa patch will give their attention exclusively to the worms, and the field will not be appreciably damaged. When a farmer finds the cut worm in his wheat or alfalfa he should try these things: Turn in the hogs and poultry; if the soil be smooth and compact enough the worms can be crushed with a drag or roller; where wheat or young alfalfa has been only partly destroyed, poison the worms with a dry mixture and Paris green, using Paris green to give color to the mixture, or bran and white arsenic distributed in rows with a grain drill.

Where wind will not permit using a dry mixture, poison bran mash may be substituted. Where the worms are going from one field to another, hogs or chickens or poison bran mash are serviceable. The migration from one field to another can be stopped by putting out a line of poison bran mash or a band of the regular food plant into which they are moving, thoroughly poisoned with arsenate of lead spray, six pounds to 50 gallons of water, or with Paris green, one pound to 50 gallons of water. The plant may also be dusted with Paris green, one pound to 16 pounds of air-slaked lime or flour.

Facts on Faxon.

The dinner was given to the Scouts by members of the local council, of which R. H. Faxon is president.

Arrangements are in the hands of President R. H. Faxon, Vice-President E. E. Frizell, and Secretary C. L. DeLong for the Kansas Development Association.

For the Trail, in the hands of President R. H. Faxon, Vice-President E. E. Frizell, and Secretary C. H. Scott.

R. H. Faxon, chairman of the railroad committee of the Industrial Club, has word from Frank Kell, vice-president etc., and so forth.

Secretary R. H. Faxon of the Motor Club has a letter from his friend Secretary H. S. Maddox of the Canon City Businessmen's Association saying he and so on.—Garden City Telegram, April 16.

Without Milk.

When baking baking-powder biscuits, and no milk is at hand, if an egg is beaten very lightly and added to the necessary amount of water to mix the dough, it will be found a very good substitute. The biscuits will brown quickly, and the egg adds greatly to the taste.

LOOK AT YOUR PASTURE.

IF OVERSTOCKED, YOUR GRASS MAY GO TO WEEDS.

It Will Pay to Give a Little Attention to the Grazing Land—Cut the Brush and Haul Off the Rocks.

Stockmen should be careful about overstocking Kansas pastures this summer. On account of the dry weather last year, the grass was eaten very close, and the roots were injured in many cases. If the grass is eaten too close this year, there will be a serious increase in pasture weeds. Most Kansas pastures already have an overabundance of weeds.

Don't turn the stock on the pasture too soon. Young grass contains a very high per cent of water, and not a great amount of animal food. If it is eaten down close, before it has time to make much growth, it will not make the total growth for the summer that it should. Thus, very early pasturing is not best for either the stock or the grass.

MOW THE WEEDS.

In the great pasture region of southeastern Kansas, in Greenwood, Butler, Woodson and the surrounding counties, pasture weeds and small brush are becoming very abundant on many grass fields. Buck-brush and sumach are very bad where the grass roots have been injured by tramping and too close pasturing. One of the best ways to control all such pests of the pasture is mowing in the summer, in order to let the sunlight down to the ground and give the feeble grass an equal chance with the weeds. Buck-brush may be cut with a mowing machine, if it is not too thick and old. If it is, it will have to be cut with an ax, and burned, and after that the young growth may be kept down with the mowing machine.

In the wet times this spring, when you have a little extra time, clean up some of the brush patches in your pasture. The brush is making no profit for you, and it never will. You have some good money invested in that land and you have to pay taxes on it, so you should get some profit from it. Cut the brush, burn it, and if the native grass is killed, sow the tame grass which does best in your country. In most sections of southeastern Kansas, Kentucky blue grass and white clover grow well. Keep the brush sprouts mowed down, and the pasture grass will take the land.

HAUL ROCKS AWAY.

It will pay to pick up the rocks and pile them off in a ditch, on the more valuable pasture lands. If rocks take up a third of the surface of the ground, the grass yield will be reduced almost that much. In other words, if your pasture land is worth \$30 an acre and rocks take up one-third of the ground, you can afford to pay \$15 an acre to remove the rocks, for the yield of the grass will be increased one-half. If your land is worth \$30 an acre now, it will be worth \$45 an acre if the surface is free from stones. Usually, the rocks can be removed for much less than \$15 an acre.

Farmers are beginning to pay a little more attention to pasture improvement than before, but the changes are coming slow. But as the land gets higher in price, the owners will be forced to clean out the rocks and the unprofitable plants that are growing, and aid the land in producing the greatest amount of grass.

Carl F. Chase Marries.

Carl F. Chase, assistant in farm mechanics in the Kansas Agricultural College, and Miss Stella May Stephens were married Saturday, April 27, at Crete, Neb. The bride is a daughter of Mr. and Mrs. Ezra Fessenden Stephens. The announcement informs their friends that Mr. and Mrs. Chase will be at home after May fifteenth in Manhattan.

The profit in keeping cows comes from the extra amount of milk that they give above the ordinary yield on common pasture or coarse feed.

A Summer School

AT THE

Agricultural College For the Teachers

Summer Term begins June 13 and ends July 25

Agriculture, Manual Training, Home Economics, and Industrial Journalism.

The legislature passed a law requiring all grade and rural school-teachers to pass an examination in elementary agriculture. This law became effective June 1, 1911.

If you expect to teach school it will pay you to invest your spare time, and the small amount necessary to equip yourself properly, in the vocational subjects required by the law.

The Courses Offered

Domestic Science.—Food preparation. Class work 5 hours, laboratory 10 hours per week. Attention is given to method of presentation of domestic science in grade and high schools; to the application of general principles of teaching to the teaching of domestic science; to the planning of courses and equipment of laboratories.

Domestic Art.—Hand and Machine Sewing. Class work 1 hour, laboratory 14 hours per week.

The primary steps of hand-sewing are carefully observed. This knowledge is then applied in the making of a plain or fancy sewing bag, a hemstitched towel, scarf or lunch cloth, an apron, etc. The hand work is followed by practice in taking measurements, and instruction is given in drafting patterns, and making garments by machine. Lectures are given on the history and process of manufacture of the materials used in sewing.

Manual Training.—Woodwork for the grammar grades; woodwork for the high schools; forging; molding and foundry practice; machine-shop work; manual training for primary grades.

Drawing.—Freehand, object, color and design, and mechanical drawing.

Elementary Agriculture.—This course is planned primarily for teachers in the rural and village schools. The subject-matter is selected and the work presented with this end in view. The course covers a year's work in elementary agriculture for the rural and village schools. All laboratory work will be presented in such a way that it can be adapted to the needs of the individual teachers. This course is especially adapted to prepare the teachers to meet the requirements of an act of the last legislature, which requires teachers to take an examination in the elements of agriculture. It includes a study of farm crops, live stock, poultry, farm forestry, soils, agricultural botany, and plant propagation.

General Science.—This course covers economic entomology and zoology, chemistry, elementary physics, electricity and light, vocational education, rural sociology, methods of teaching.

Industrial Journalism.—Ten lectures, especially prepared for teachers, describing the first essentials of newspaper writing: How to prepare copy; news values in town and city; how to prepare a magazine story; newspaper organization; a brief history of journalism, news, agricultural, trade, scientific, educational, commercial, and religious; a few points on libel; high-school journalism. The series is intended only to help teachers who may desire to become correspondents or to add to their incomes by magazine writing.

Other Courses Offered:

English, history and civics; physical education, which treats of this work in public schools, and work in the playgrounds, competitive sports and practical work.

Vocational Education.—The development and significance of vocational education, and a careful study of trade and continuation schools in Germany and other countries, and in this country, with a study of pedagogy as applied to the teaching of vocational subjects in the high schools and in the seventh and eighth grades.

Vocational Guidance.—A study of the need of vocational guidance for pupils in the seventh and eighth grades and the high schools, etc.

Educational Excursions

The college has planned excursions under the leadership of experts to the experimental fields, the stock feeding yards, dairy and poultry barns, the gardens, orchards, the tree-planting plots, and the hog-cholera serum station.

Expenses

The only fee charged by the college will be the regular incidental fee of \$3.00, which the state law requires to be charged of all students who are citizens of Kansas. Nonresident students will be charged a fee of \$20.00 for the first term and \$10.00 for each term thereafter. Board and room may be had for from \$4.00 to \$5.00 a week.

For further information address

H. J. Waters, President

Box E, Manhattan, Kansas.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, May 11, 1912

Number 29

WATER FOR DRY LANDS

MANY PUMPING PLANTS HAVE STARTED IN WESTERN KANSAS.

To Irrigate 150 Acres is Not Unusual Now—Centrifugal Pumps, Reaching Down to the Underflow, Do the Work—College Engineer Helps.

Western Kansas farmers are planning to get water from below the ground when they can't get it from above. Many wells have been sunk to the inexhaustible underflow, in the last year, for irrigation. Many more are being planned. With the acreage of irrigated lands rapidly increasing, a total crop failure in western Kansas soon will be impossible.

In the office of H. B. Walker, drainage and irrigation engineer at the Kansas Agricultural College, is plenty of proof that the interest in irrigation is growing rapidly. Some of the larger systems that have been reported to Mr. Walker are: C. M. Niquette, of Garden City, who will irrigate alfalfa and cabbage this year; Dennis Doty, also of Garden City, who will turn the water on ten acres of garden, twenty acres of trees, and 120 acres of alfalfa; and J. W. Lough, of Scott, who irrigated 185 acres planted to potatoes, melons, barley, and feeds. Farmers in other sections of the state also are putting in pumping plants. One of the largest is near Holton. Mr. Walker is eager to help anyone who is thinking of installing a system.

CENTRIFUGAL PUMPS ARE USED.

Wells used for irrigation are from twenty to 300 feet deep and generally are twenty-four inches in diameter. A centrifugal, turbine pump is used. This pump has a propeller. The propeller is placed not more than twenty feet from the surface of the water. It is operated by a shaft from the top of the well. The shaft is enclosed in an iron pipe which runs down the well. By revolving the propeller, the water is forced up the pipe to the surface of the ground. The faster the propeller, or the greater the number of blades, the higher the water can be forced.

A pumping station is operated for every well, generally. In a few instances a central pumping station is used. An engine which burns a cheap fuel, as gasoline or crude oil, furnishes the power. The deeper and larger the well, the greater the horsepower rating required of the engine.

ONE WELL FOR 30 ACRES.

The flow of the wells varies from 900 to 2000 gallons a minute. A well flowing 1700 gallons a minute will more than flood one acre an hour. If the pump is run day and night, twenty-five or thirty acres can be irrigated from the one well.

The costs of the wells average \$60 for each horsepower of the engine. One of the Lough wells near Scott City, which is 130 feet deep and twenty-four inches in diameter, cost \$4500. The deeper the well, the more the cost, not only because of the additional boring expense, but also because a stronger pump is required. The wells usually are put down by the company selling the pump.

Not only farm crops common for that section of the state are watered, but truck gardening is being developed. Potatoes and cabbage are the two principal garden crops grown. In some cases, water is being obtained by damming the draws.

CUBS EDIT A DAILY.

The Manhattan Mercury for May 3 in the Hands of Students.

The Cub Club demonstrated to the world one day last week that it can edit a first-class daily newspaper. The issue of the Manhattan Mercury for May 3 was the work of students in industrial journalism in the agricultural college—the Cub Club.

It was an eight-page paper, that day, all news and advertisements. Practically all the news matter was gathered the day it was published. It was a sample of what young men can do with only a two years' study of newspaper writing, and, listening to the comment, it was a highly correct daily. The cubs also will edit the Manhattan Nationalist, June 1.

THIS IS "WHEAT DAY."

Every Institute in Kansas is Discussing Better Yields and Better Quality.

"Kansas wheat averages less than 15 bushels an acre. Why not make it 25?"

Every member of a farmers' institute in Kansas is expected to discuss that subject to-day, May 11. This is "Wheat Day" in Kansas. The agricultural college sent out a general program to all institutes suggesting topics on wheat growing. The discussion is to be divided into two parts: "Better Yields," and "Better Quality." W. M. Jardine, head of the farm crops department, prepared the list of questions to be debated under the subject, "Better Yields." L. A. Fitz, professor of milling industry, suggested the topics for talks on "Better Quality."

To talk on the subjects suggested for "Wheat Day" a farmer will need to combine his experience with a study of the question assigned him. No phases of the industry are to be omitted. The summer fallow, wheat between corn rows, listing for wheat, disking stubble land before plowing—all these questions and many others are in the list. Here are some of them: "When is the best time to plant wheat in your county? Does it pay to harrow in the fall after seeding? In the spring? Does it pay to fan or grade wheat for planting? Does it pay to send out of the state for seed wheat? Experience in central and western Kansas in listing for wheat. What is a good rotation for wheat in your county?"

Some of the questions suggested by Professor Fitz are: "What variety is best to plant in this county? Why is it advisable to treat seed wheat for smut? At what stage of ripeness should wheat be cut to produce the best quality? To preserve the best quality in the wheat, should the binder or the header be used to cut? Does it pay to shock and cap the wheat cut with a binder? What are the advantages of stacking wheat instead of threshing from the shock?"

MAY DAY NEXT SATURDAY.

Miss Emma Kammeyer Will be Crowned Queen by Mrs. W. R. Stubbs.

May Day at the agricultural college this year will be May 18. And the Queen of the May will be Miss Emma Kammeyer, a daughter of Professor Kammeyer. Mrs. W. R. Stubbs, wife of the governor, will crown the queen.

Miss Kammeyer was given the honor last week in a ballot vote of the students conducted by the Y. M. C. A. Miss Lois Gist received the second highest number of votes.

Student organizations will give the usual program of "stunts," including drills and dances and a playlet, perhaps. Three Maypoles will be wound. Each one will represent a figure. There will be no red lemonade, but plenty of refreshment stands will help make it a "general good time." The annual senior-faculty ball game also is a part of the program. And of course the band will play.

Arthur Capper, president of the board of regents, will be a judge of events. W. W. Bowman, secretary of the State Bankers' Association, also will be a judge.

Successful dairying means that it is vital to steer clear of dry cows and indifferent producers. High-priced feeds brings this home.

PROVED THE COW STORY

"MAID HENRY" AND "OWL'S DESIGN" ARE PAYING A STUDENT'S EXPENSES.

Fifty-Two Families Buy Milk, Butter and Cheese from George Campbell—Ambition, Energy and Consistent Advertising—Independent.

The product from two cows, belonging to the Kansas Agricultural College, is taking George Campbell through college, paying his way, and supplying milk to 52 families. A story telling how this might be done was sent out about two months ago by the department of industrial journalism. It attracted Campbell's attention. At that time this young man was conducting a "hurry up" messenger service, using a bicycle as means of rapid transit; attending the fur-

Pointers for Teachers.

"How can I get the editor to print something about our work in the high school?"

"Wouldn't the readers like to hear about our studies in elementary agriculture and domestic science?"

"What kind of items does the editor of a paper in a small town like to receive?"

"Why does he throw away everything I write or change it so that I never recognize it?"

"Don't we do something that no other school does—something the city papers would like to tell about? How should I write it?"

"The editor of our paper turned my last piece upside down and didn't use a word of the introduction. I wonder why."

Teachers who attend the summer school at the Kansas Agricultural College, in June and July, and hear the ten lectures in industrial journalism will get the answers to the foregoing questions. Think it over.

nances of several families, and in other ways picking up dollars to help himself along.

HE SAW THE CHANCE.

The possibilities of a milk route appealed to Campbell. Thereupon he arranged with the dairy department for the output of two cows, Maid Henry, a Holstein, averaging 66 pounds of milk daily, and Owl's Design, a pure-bred Jersey, a young cow, giving about 48 pounds of milk a day. The next thing Campbell did, at a time when he had only one customer, for one quart of milk, was to insert a four-inch one-column advertisement in the daily papers of Manhattan, informing the public that he was prepared to supply fresh milk or cream, butter or cottage cheese. Within ten days 52 families had applied to him, by telephone and mail, for one quart of milk every morning. Several wanted butter at regular intervals, and a large number ordered the cottage cheese.

The output of the two cows averages 14 gallons, of which Campbell is taking 13 gallons, or 52 quarts. The milk is delivered early in the morning, while most of the students are still asleep. In this way Campbell serves his customers and finds time to attend to his lessons in college.

A DAILY PROFIT OF \$4.16.

If he owned these two cows and sold their products at 32 cents a gallon, says O. E. Reed, professor of dairy husbandry, he would be earning \$4.16 a day. The feed for the two cows costs less than one dollar a day. Their performance is not offered as an attempt at record breaking. It is described only to show how an ambitious young man

can find a way, if only he has the will, to help himself.

Incidentally, Campbell continues his advertisement in the daily papers and cleans enough to keep himself independent. He has not had to ask one family to buy his goods. The advertisement did that for him.

MILKMEN MEET MAY 17.

Grading Cream the Principal Topic for Cream Buyers and Producers.

To stop a leak that is causing the loss of a million dollars a year in Kansas is the object of a butter convention to be held at the Kansas Agricultural College, May 17 and 18. Dairymen and butter makers from Kansas and some from adjoining states will attend. It will be a conference between buyers and producers of cream.

The grading of cream—a practice new to the dairy industry, and one which promises a better supply of butter as well as the saving of large losses to cream producers—will be the principal question under discussion at this convention. It is the wish of D. S. Burch, state dairy commissioner, that the meeting shall bring about a clearer understanding of the new system by producers and buyers. Other questions also will be discussed by the milkmen. Mr. Burch arranged the meeting.

The practice of grading cream was begun in this state only in the last few months. When cream is graded it is classified according to its qualities to make good butter. Before this was done, cream was valued according to the quantity of butter fat it contained. The quality of the butter fat wasn't considered. But since good, fresh cream makes higher price butter than old, inferior cream, creamerymen were willing to pay more for the good butter fat.

But there was this difficulty when they came to grade cream: There was no reliable method for determining first- and second-grade product. Then D. S. Burch discovered a test which has been used very satisfactorily in the last few months; so well, in fact, that it may mean a revolution in the cream and butter industry in Kansas. This test will be fully explained and demonstrated by Mr. Burch at the meeting next week. It is the principal drawing card of the convention.

A few of those invited to speak at this meeting are: T. A. Borman, editor of *Kansas Farmer*, F. C. Wright, manager Queen City Creamery Co., Beatrice, Neb.; E. Yoder, manager Swift and Co., Hutchinson, and R. C. Wiley, a chemist in the Kansas Agricultural College.

PLENTY OF WATER SOON.

Five Large Wells Have Been Sunk on the East Campus.

The agricultural college will have an adequate water supply, independent of the city, in the near future. The two wells now used furnish about one-half the amount of water needed, so five new wells are being sunk on the east edge of the campus.

The new wells are about 200 feet south of the old ones. The gravel bed from which the old wells get water is only three feet thick. The new well points go through about 15 feet of water-bearing gravel. The gravel bed is 40 feet below the surface.

The water will be pumped by an electric motor supplied with power from the power house. The pumps will be in a pump house under the surface of the ground, so that the landscape effect of the campus will not be marred. An effort was made to get a water supply on top of the hill. The only flow of any consequence struck was salt water.

CUT ALFALFA HAY EARLY

WHEN ONE-TENTH IN BLOOM IT MAKES THE BEST FEED.

The Green Effect Much Desired Also Results from Well-Cured Hay—Bleaching May be Avoided by Turning in the Windrow.

Cut your alfalfa when it is about one-tenth in bloom, and cure it carefully afterward. This, says A. H. Leidigh, of the farm crops department at the Kansas Agricultural College, is the way to get first-class alfalfa hay—the bright green kind that brings a high price.

Experiments made at the college prove that alfalfa cut when in full bloom does not have as high feeding value as when cut early. The early cut hay exceeded the other in the four qualities which a good hay should have—healthfulness, palatability, digestibility, and value after digestion. For horse feed, alfalfa should be cut a little later.

STACK WHEN DRY.

To get alfalfa hay which shows no discoloration, two points must be observed, says Mr. Leidigh. The hay must be cured by the circulation of air through it, not by the hot sun; and it must not become wet after being cut, or be stacked when it contains the least trace of moisture. A light dew on hay cut in the evening and stacked the next day sometimes has seemed to improve the color.

Too long exposure to hot sunlight or to dampness allows the food substances to leach out. If this process goes on long enough, the value of the hay may be reduced by one-third or even by one-half.

Bleaching may be avoided by turning the hay two or three times in the windrow before it is stacked, or by shocking it and leaving it in the field several days. In the latter case shock covers are valuable in preventing damage if rainy weather sets in.

STOCK EAT STEMS, TOO.

Few leaves thresh off when alfalfa is cut early and the plant does not become stemmy. When fed to stock it is eaten stems and all. According to the experiment, early cut hay was more valuable for feed, as it contained more necessary food substances than the late hay.

It is said that some farmers who always have the best colored hay are in the habit of cutting it just before a rain. Mr. Leidigh is of opinion that this practice could be successful only in the case of light rains. If the hay, cut and lying on the ground, gets wet and stays wet for more than a few hours, it is certain to be discolored.

MOW WEEDS IN NEW GRASS.

Set the Cutter-Bar High and the Hay Will Not be Harmed.

Don't forget to mow the weeds on the fields where tame grass was sown this spring. Weeds grow very rapidly in the spring, while the grass starts slowly; and if the weeds are not cut they will smother the grass, which can't grow without sunlight.

Set the cutter-bar of the mowing machine high and you can cut the weeds while the machine will pass above most of the grass. The weeds will start in patches over the field, so it will not do to wait until they cover the field before you begin to mow. Usually, the weeds should be cut about June 1, and after that you should mow them as often as necessary. The grass should be high enough, later in the summer, for the last cutting or two to make crops of feed that will pay to rake and save.

Be sure to cut the weeds before they have hurt the growing crop. You have gone to the work of putting in the grass, and now you should take care of it.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in *THE KANSAS INDUSTRIALIST* are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for *THE KANSAS INDUSTRIALIST* makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MAY 11, 1912.

THE COUNTY ENGINEER.

About twenty-two counties in Kansas, acting under the new law, will spend from \$10,000 to \$80,000 for state and county roads in 1912. As the building of roads is new to most of the county commissioners, and in many cases these boards are entirely inexperienced in this work, large amounts will be wasted in poor and faulty construction if this money is not handled judiciously. These state and county roads should be, in every respect, models for the community. There must be a competent engineer employed to direct this county road and bridge work and to assist the township officials. An incompetent man will be little if any better than none, but if a thoroughly competent, experienced county engineer is appointed he will save to the county his yearly salary every two months.

The question has been asked many times whether a county engineer must be appointed in all counties. The attorney general's opinion is:

"Section 27 of Chapter 248 of the Laws of 1911 makes the county surveyor eligible to become county engineer only in case he be, in the judgment of the county commissioners, competent to superintend the county and state roads. If, in the judgment of the county commissioners, the county surveyor be not competent to superintend the county roads, he should not be appointed county engineer, but another person who is competent should be appointed. The county commissioners should exercise their honest judgment in this respect and do so with strict impartiality and absolute good faith.

"The question arises as to whether or not the law requires the county commissioners to appoint an engineer. In my judgment it does. It is true that Section 27 uses the word 'may,' which in general is permissive and not mandatory. But we must not read Section 27 alone. We must read it in connection with all other sections of Chapter 248 or any other road law in Kansas. Section 28 imposes certain duties on the county engineer. Section 31 provides that the county engineers, with the approval of the county commissioners, shall determine what state and county roads can be dragged, and shall arrange every year for dragging state and county roads upon such terms as the county commissioners and the county engineer may dictate, and provides further that any officer under the authority of this section who shall neglect or refuse to enforce the provisions of this section, as relates to dragging of roads, shall be deemed guilty of a misdemeanor, and shall upon conviction, be fined. Several other sections of this chapter require acts to be performed, and the performance of those acts is made necessarily to depend upon the existence of a county engineer. Therefore, very clearly, in my judgment, does Chapter 248 make it the absolute duty of the county commissioners to appoint a county engineer who is competent to perform his duty."

A RURAL HOLIDAY.

Farm boys should not be compelled to work six days a week. If the country lads are allowed to go fishing, play ball or take some other form of amusement Saturday afternoon, they will do more work in the five and one-half days of labor than they would if they worked the full six week days. And rural life will be much more attractive to them.

One of the best things the boys of a country community can do is to organize a baseball team, and practice enough so that they can play real ball. Take every Saturday afternoon off for practice, and play the teams from the surrounding neighborhoods. The games could be attended by all of the people of the community, and they would do much to awaken a healthy community spirit.

There should be more country picnics. If the farmers take all the family, and meet the members of the other families of the community, it will do much to develop a healthy spirit of helpfulness and sociability among the neighbors. If all the farmers of Kansas would plan to get together, this summer, in this way, the sum total of rural contentment would be much increased.

Then there is no reason that tennis, golf and other athletic clubs should not be organized. Let the young people take up the special form of athletics in which they are interested. Or, if the interest does not depend so much on athletics, they should organize other clubs of a literary or social nature. The main point is to get together, which is a normal desire for everyone and especially for the younger people.

The rural people in Kansas are depending on the city for their social life. If the rural life is to develop to the highest possible point, the brightness in the lives of the younger people must not all be gotten in the cities and towns. Why not develop a real and characteristic country life and civilization? It can be done, it will be done, and then country life will take the place it should have. F. B. N.

BETTER COUNTY FAIRS.

The managers of your county fair are making plans for the fair next fall, and probably they are booking some of the attractions now. If you desire to express your opinion, on the way the fair should be conducted, do it at once.

Most of the smaller fairs of Kansas spend too much time and money on alleged attractions which not only have no educational value, but which are not fit for the patrons to see. Cut out the sideshows. Most of them are fakes.

In place of the street fair attractions which are now offered, have crops and grain-judging contests. Get an instructor from the agricultural college, who can give the boys and young men some practical instruction in judging. That is the most practicable work you could give them. If the fair lasts more than one day, and most Kansas fairs do, the instructor could give personal instruction and criticism to every student. Offer prizes for the best work in judging. Pay these prizes with the money you have been paying horse jockeys for some slow "hoss" races. You can have a fair that is more successful if you eliminate the speed department.

Give the girls something to do, also. Have fruit-canning and bread-making contests, and give good cash prizes for the best work. You should get an instructor for the domestic science work, and she can give demonstrations to all of the women, on the best methods of preparing food.

Increase the prizes that are given for farm products. Most Kansas fairs do not pay the attention to the crops and live stock departments that they should, and some pay no attention to the local products. A county fair that does not consider the welfare of the local people as the thing of primary importance should go out of business. Local people pay the bills, and they should get the benefit instead of horse jockeys and sideshow fakery. F. B. N.

A Golden Text.

How much better is it to get wisdom than gold! and to get understanding, rather to be chosen than silver.

—Proverbs 16:16.

A KIT OF TOOLS.

Industrial journalism, defined very conservatively, is an education. An education is, at all times, a well-equipped tool kit. Therefore, it can be said that industrial journalism is a kit of tools for the student who, in the time soon to come, must do his or her own chiseling and hammering.

Every skilled carpenter has his own tool box, in which are found the well-tempered implements of his trade. Each tool has its use for special work. Every student in industrial journalism, when his course is completed, owns his own mental tool kit. In this

Tonics don't benefit one very much. It is a case of "sticking by your post;" your desk or your students.

The man of action is never lazy. The lazy man usually is stricken first with the spring ague. Keep moving and thinking. These are the best preventives for spring fever. A. G. V.

THE \$10,000 MAN.

A college student ought to study as if he were qualifying for a \$10,000 job. Who knows but what he is? Little thought of the seriousness of the future ever enters the mind of the average student. He desires a something called an education. The bread and butter side doesn't receive much consideration until later.

Some students with more foresight than others begin to think of the future about the junior year. Others drift along until the home stretch of the senior year, and then begin to wonder how much they are worth in real money to some employer.

How much more every college graduate would be worth to himself, to

When the Green Gits Back in the Trees.

James Whitcomb Riley.

In spring when the green gits back in the trees,
And the sun comes out and stays,
And yer boots pulls on with a good, tight squeeze,
And you think of yer bare-foot days;
When you ort to work and you want to not,
And you and yer wife agrees
It's time to spade up the garden-plot,
When the green gits back in the trees—
Well! work is the least o' my ideas
When the green, you know, gits back in the trees!

When the green gits back in the trees, and bees
Is a-buzzin' 'round ag'in,
In that kind of a lazy go-as-you-please
Old gait they bum 'round in;
When the groun's all bald where the hay-rick stood,
And the creek's riz, and the breeze
Coaxes the bloom in the old dogwood,
And the green gits back in the trees—
I like, as I say, in sich scenes as these,
The time when the green gits back in the trees!

When the whole tail-feathers o' Wintertime
Is all pulled out and gone!
And the sap it thaws and begins to climb,
And the sweet it starts out on
A feller's forred, a gittin' down
At the old spring on his knees—
I kindo' like jest a-loafin' 'round
When the green gits back in the trees—
Jest a-potterin' 'round as I—durn—
please—
When the greep, you know, gits back in the trees!

SUNFLOWERS.

About this time, every four years, certain persons begin to "see the handwriting on the wall."

The Hutchinson *News* has a department called "Picked up while making the rounds." And it isn't police court news, either.

We wish someone would send us a copy of "Ex," so frequently quoted by many of our good friends. It must be a very large paper.

The "Mite Society" of Clyde met with Mrs. H. O. Bradley a few days ago, says *The Farmers' Voice*. Are the members in the poultry business?

"Troy is Waking Up," says the optimistic *Wathena Times*. "For four or five years Troy has been waking and shaking herself." Gently, Brother Ryan—not too loud, now.

We have often wondered if—some glad day—Mack Cretcher would recognize us. And just when hope was about dead came a letter asking for a dollar, dues in the Editorial Association.

The Cub Club showed keen interest when the M. E. Conference in Minneapolis discussed dancing. The way the boys hustled interviews on this subject for their issue of the *Manhattan Mercury*, May 3, was encouraging.

The state auditor believes, the papers say, that state institutions should be supported by a tax instead of by appropriations. This can scarcely be true. What would the auditor do in that case—cut the tax?

The silk-hatted gentlemen farmers in *The Star's* story, last Sunday, will furnish amusement to the real thing, anyway. Did you notice the left-handed plow? You don't see many, nowadays. And no reins, either!

Moralists are finding much to discuss in the fact that in Douglass county 314 couples paid \$492, last year, for marriage licenses, and sixty-three couples gave up \$3001 for divorces. Men usually pay about what they think a thing is worth.

Some persons have commented adversely on the action of Mrs. George D. Widener, who left her husband on the sinking Titanic and took along her \$700,000 rope of pearls. Wise Mrs. Widener. She probably reflected that she could get no more pearls like those.

Did you notice, too, how the students in charge of the *Mercury*, May 3, showed their interest in live things? Articles on cleaning up the town; the speed ordinances—which few persons seemed to know existed; putting wires under ground; citizens' rights in the registration for the fall election, and other timely subjects? These boys read the newspapers.

Candidly, if we were to think about running for the Presidency—after serving a term and a half—we shouldn't care what George Washington may have thought on that subject. Neither should we be influenced by what Robert Lincoln thinks his martyred father thought. Robert doesn't know any more about it than the Holstein and Jersey cows, to whose remarkable performance we draw attention in another column.

The Rural Shift.

It requires no imagination to see that rural life is, in some respects, in a state of arrested development, as compared with the cities and towns. The rural population now looks beyond its own institutions to those of the city—to the city school, the city church, the city library, the city stores, the city amusements. The great constructive movements of the day have passed the country by. The country has been left socially sterilized. Centers of interest are elsewhere. In many regions, the farmer will talk politics, war, and city questions, and anything rather than farming. I would not have my reader feel, however, that this is peculiar to these later days. I well remember vehement discussions whether the pen is mightier than the sword, but I never heard a debate as to the plow, which really is mightier than either.

—The State and the Farmer.

equipment he has the acquirements which will enable him to do the work assigned him.

The course is comprehensive. Studies of a scientific nature, including chemistry, zoölogy and bacteriology, fit him for labor along such lines. Mathematics have a prominent place. Literature and history are thoroughly covered. Political science is in its rack. Industrial and mechanical arts are there in several sizes and forms. Languages and classics have a nook. Agricultural problems are well studied and discussed. The laws, theories and practices of newspapers are all included in the array. In fact, every study that is utilized in the construction of a successful career is to be had in the kit. Some workman may never accomplish very much even with the best tools, but with the equipment—with such an education as is received from this course—a poor "stick" indeed is he who flunks out in his later studies. A. G. V.

THAT TIRED FEELING.

It is hooky time. The song of the lawn mower and the tattoo of the carpet beaters awake desires known only in spring time. With the change in seasons comes the old wanderlust for the field and stream. We all would like to quit the schoolroom and our duties for the bull-head creeks.

But only a few can indulge such inclinations. The majority must buckle down to hard work. This lassitude must be conquered.

Spring fever is a challenge to a man's will power. It is a mighty, powerful tempter. The man who can control his desires for leisure, and direct his energies to the tasks, while sick with spring fever, will be successful. It is a matter of self-persuasion.

his employer and to his community at large, if, from his freshman year to graduation, he put forth his best efforts every day?

Every minute of college life is golden. It means money in the graduate's pocket if spent in the right way. When he is ready for a job, the job is waiting—not him. H. M. Z.

THE CAWKER CITY METHOD.

If every county in Kansas would tell its commissioners to conduct their road and bridge negotiations according to law—as Mitchell county has done, recently—the state would have more good roads and bridges. If every county had a paper like the *Cawker City Ledger*, with enough grit to talk plainly and with a fine disregard for the political consequences, better men might be elected to these responsible positions.

To emphasize its disapproval of its commissioners' conduct in letting contracts without advertising for bids, the county, in mass meeting, has asked these officers to resign. If they decline to do this, the county attorney is requested to begin ouster proceedings. Sometimes it looks as if the people really do rule.

THE SEATS OF THE MIGHTY.

"But now," says the cheerful *Wichita Beacon*, "J. C. Coburn follows with the prediction that Kansas will add 90 million bushels to the winter wheat harvest."

J. C. Coburn ! !
Risum teneatis, amici?
Vulnus immedicabile!
Nisi Dominus frustra!

Laugh and the world laughs with you, unless you happen to be laughing at your own jokes.

PEANUTS WILL BE TRIED.

THE COLLEGE WILL TEST THIS CROP ON KANSAS LAND.

On the Station Farm and in Various Parts of the State the Spanish Variety Will be Given a Chance This Year.

Fatten your hogs on peanuts next fall. Or feed your dairy cows on peanut hay next winter, if you wish to get the largest possible yield of milk. Experiments have shown that hogs may be fattened cheaper on peanuts than on corn, while dairy cows increase their milk yield when fed whole peanut hay. Roasted, they are a mighty good food for humans, too.

The Kansas Agricultural College is experimenting with Spanish peanuts this year. The plant will be thoroughly tested on Kansas land. Twenty bushels of peanut seed has been sent to farmers in various parts of the state, who have agreed to grow them according to instructions from the college. The college also is testing them on its own farm.

NEEDS SANDY SOIL.

There are two kinds of peanuts—the Virginia or common peanut and the Spanish. The Spanish peanut is much smaller than the common variety and is used for hay, grain, and pasture. It grows best on a sandy loam soil. Heavy clay soils or poorly drained lands are not adapted to growing this crop, and land of this kind should not be planted to peanuts. The ground should be prepared in about the same way as for corn. Peanuts do not start or grow very rapidly, and it is advisable to have the ground as free from weeds as possible before planting them.

Spanish peanuts are planted in the pod. They should be soaked about 36 hours just before planting. Treated in this way, they will germinate more readily and the chances of securing a stand are increased. They should not be planted until the ground warms up thoroughly, usually the last of May or the first of June. They should be drilled in rows three feet apart and 12 to 15 inches between hills in the row. Planted at this distance, a bushel of peanuts will seed an acre.

The Spanish peanut is one of the best of drouth-resisting plants. It waits for rain. It will raise a good crop during a dry year, although the better the rainfall the larger the crop, if the land is well drained. Being a legume, like clover, alfalfa, and cowpeas, it enriches the soil on which it grows.

PEANUTS STAND DROUTH.

Under favorable growing conditions the Spanish peanut will mature in 90 days from planting. When checked by drouth or other unfavorable conditions it may take from 100 to 120 days to mature. It can adapt itself to a variety of soils, rainfalls, and climates. In 1911 it matured in Colorado at an elevation of 6600 feet. It stands drouth as well as milo, kafir, and cotton, the three great drouth-resisting crops.

At the Arkansas Experiment Station hogs pastured on ripe peanuts made a gain of 1252 pounds from every acre, while other hogs made a gain of 436 pounds an acre on corn. The Texas station found that it required less than three pounds of peanuts for every pound of gain on pigs that weighed 40 to 50 pounds at the start. At Moline, Ill., a herd of dairy cows which was getting a ration of ensilage and grain was changed to a ration of ensilage and the whole peanut plant—vines and nuts—and the milk yield was increased.

Mrs. C. C. Cunningham Dead.

College and townspeople of Manhattan were saddened one morning last week, April 27, when they learned that Mrs. C. C. Cunningham had died. Mrs. Cunningham, who was Miss May Griffing while attending the Kansas Agricultural College, was graduated with the class of 1907. Her old home is on College Hill, where she has an especially large number of friends who will mourn for her. Besides her husband, C. C. Cunningham, assist-

ant in agronomy in the agricultural college, Mrs. Cunningham left a baby girl only a few weeks old. For two years after her graduation, Miss Griffing taught school in Riley county. Then, in 1909, she was married to C. C. Cunningham. They lived at Hays, Kan., for two years, while Mr. Cunningham was connected with the experiment station. He was then transferred to Manhattan and they moved here last year. While in college Miss Griffing was a leading member of the Alpha Beta Literary Society and was prominent in Y. W. C. A. work. She was chiefly distinguished for her amiable disposition and for her devotion to her work and her friends. Funeral ceremonies were conducted by the Rev. A. N. Smith, of Ellsworth, assisted by the Rev. J. Robinson, pastor of the M. E. Church in Manhattan. Burial was in the Manhattan cemetery.

THE COST OF A CREAMERY.

A Department Estimate is Here Supplied by the Washington Press Bureau.

An investigation of the creamery business in several states by the United States Department of Agriculture has shown that the cause of many failures was due to lack of a sufficient number of cows, improper organization, in the case of cooperative creameries, or excessive cost of building and equipment. Many creameries have cost about twice their actual worth, and were not of the type suited to the locality.

The cost of a creamery building 28 by 48 feet will vary from \$1000 to \$1800, dependent upon the locality, the construction, and the cost of material and labor. Such a building usually consists of a main work room, engine and boiler room, including space for refrigerating machine, coal room, refrigerator, store room, and office.

Machinery for a gathered-cream plant, consisting of 15 horsepower boiler, 10 horsepower engine, combination churn with a capacity of 600 pounds of butter, and other necessary apparatus, will cost approximately \$1200. Machinery for a whole-milk plant will cost about \$1850. This equipment will handle from 1000 to 1200 pounds of butter a day. If a refrigerating machine is included the cost will be from \$600 to \$1000 more.

The total cost of a creamery would therefore vary from \$2200 for a small gathered-cream plant without artificial refrigeration, where labor and material are cheap, to \$4650 for a whole-milk plant, including artificial refrigeration and a higher cost of labor and material.

O. E. Reed, professor of dairy husbandry in the Kansas Agricultural College, says any farming community in Kansas with good railroad connections, where at least 400 cows can be found within a radius of 5 miles from the factory, the owners of which will guarantee to sell the entire amount of cream produced from their cows to the factory, is in a position to consider the establishment of a creamery. When only 200 or 300 cows can be found it is unwise to build with the expectation that the farmers will soon buy in enough cows to make up the necessary number. The farmer usually waits to see if a new enterprise is going to be a success before he invests his money in cows. A creamery for 400 cows need not cost over \$3000.

The Joy of Living.

Just to think of two whole weeks of sunshine strung together in the first half of April! The farmers have been making the most of it and the people in town have nearly all made some garden. The prairies are green with the new grass, the plum trees are in bloom, and the weather has been simply delightful.—Allen County Journal.

Meat Pie.

Cut some steak or beef very fine and add 2 onions, pepper and salt, cover with water and stew till meat is tender, then make pie crust and put over the pan. Bake a nice brown.

A WAXED FLOOR IS BEST.

NO CARPETS ARE REQUIRED, AND IT'S SANITARY AND SAVES WORK.

Oil, Varnish and Paint May be Used on Certain Kinds of Wood—Have the Floor Clean Before Applying Wax.

When polished floors first came into use, people said, "Oh, it's only a fad; in five years we'll be walking on old-fashioned carpets again." Now, twenty years have passed and it is a rare thing to see an old-fashioned rag or ingrain carpet.

Whether a floor is finished with oil, wax, varnish or paint usually is determined by the amount to be expended and the use to which the room is to be put. Soft and hard pines, maple, ash and oak are most often used in floors. Oak is by many considered the best wood for floor uses, particularly if it is quarter-sawn.

Oiling probably is the most common way of finishing floors. If the floor is to be kept the color of the wood, it must not be oiled, because oil darkens a wood, and the more used the darker the wood becomes. The oiled floor often is unsatisfactory because the work has been done improperly. Sometimes the oil used is too heavy, and it may not have been rubbed in thoroughly; or the floor may not have been clean.

HAVE THE OIL HOT.

For oiling a floor have the oil hot and the room and floor perfectly clean. Dip a broad paint brush in the oil and go over the floor, working the brush back and forth on the boards as if painting. Let this stand for an hour or more; then cover a weighted brush with a woolen cloth and go over all the floor, rubbing with the grain of the wood. The polishing must be continued till the floor looks smooth, not oily.

Another way is to mix two-thirds boiled linseed oil with one-third turpentine. Wet a cloth in this mixture and rub it into the boards, following this with a brush and rubbing with a woolen cloth. The secret of success in oiling wood is to use a good quality of oil with enough turpentine or alcohol to make it light.

Waxed floors are much prettier and last longer than oiled floors, but they are not so desirable if they are to be subjected to the tread of many dusty feet. The floor to be waxed should be perfectly smooth and clean. The boards of a close-grain wood made perfectly smooth can be waxed without any other preparation. An open-grain wood requires filling with a paste filler. This brings out the grain of the wood and prevents the absorption of too much of the more expensive fluids. If other than the natural finish is desired, a stain is added to the filler.

CLEAN WITH TURPENTINE.

The wax for polished floors can be bought prepared for use or it can be prepared at home. Put the wax where it will get warm and soft. Have the room thoroughly swept. Go over the floor carefully and clean all soiled places with turpentine and a flannel cloth. Moisten a flannel cloth with the soft wax, being careful not to have any large or hard bits of wax on it. Rub floor all over with this cloth.

When this is done let the floor remain in this condition for an hour or more, then polish with a weighted brush, rubbing with the brush until a soft luster comes. When the whole floor has been polished in this manner, cover the brush with a large, woolen cloth or piece of clean, woolen carpet, fastening the cover on the brush with safety pins. Rub the floor with this and the surface will take on a high polish.

Varnished floors are perhaps easiest to keep clean and when newly finished look well, but they are easily marred and become unsightly in floors where there is much wear. Floors that are to be varnished are given the same treatment of the paste filler, if the wood is at all porous. Varnished floors are very successful if re-varnished at the first sign of wear. It will be found

cheapest in the end to apply a thin coat once a year, and oftener if necessary.

The daily care of hard-wood floors is very simple. If the room is much used, it must be swept first with a soft hair brush, then wiped with a long-handled dust mop. When a room is not used much the dust mop is all that is required.

Once a week, all the spots should be wiped clean and a cloth moistened with oil and turpentine should be rubbed on any parts where the polish has worn off. Then the floor should be rubbed with a weighted brush. A floor that is thoroughly cleaned and polished twice a year can be kept in beautiful condition by this weekly care.

Crude petroleum can be used to clean floors that have been painted, varnished, or oiled. This oil not only cleanses, but at the same time it gives a finish.

FARMERS SHOULD HAVE GARDENS

There's Plenty of Room, But Usually City Gardeners Excel.

Vegetable gardens on Kansas farms are not given much attention. Usually a farmer says he hasn't the time to take care of the garden, so he plows up a little "patch" near the house and lets the already overworked housewife care for it. The man of the house should care for the garden, which should be large enough to provide an abundance of vegetables for the family.

Have the garden near the house, so it will not be so much bother to get the food when it is needed. Fence it with chicken netting that is tight enough to keep all fowls out. Then, don't plan to do all of the work after supper, when you already are tired. Take some time from the regular field work, and cultivate the garden as it should be cultivated. It will pay, not only in satisfaction, but also financially.

The average of city gardens, grown on cramped plots, would grade higher than those found on the farms of Kansas. City men frequently have to do much of the cultivating by the light of the street lamps, but at that they do a better job than the farmers. The poorest gardens are in the country, where one would expect to find the best.

Put some time and work on the farm gardens this summer. Farmers have a right to the best things of life, and fresh vegetables come under this classification.

HAVE PERMANENT WATER GATES.

They Do Away With the Constant Repair on Makeshifts.

Nothing is more irritating to farmers than the washing out of water gaps and flood gates. The upland farmer will have draws and sloughs, while the farmer of the lowland must contend with creeks and rivers.

The most practicable system of maintaining water gates, with little outlay of money, is a swinging gate from a cable tightly stretched between two trees. If trees are not available, large posts may be set in concrete and guyed in three directions. This will cost more, but if the posts are set in the rock of the river bed, they will never wash out, as trees growing in soft banks sometimes do.

As the stream rises the gates swing out and the water with its load of trash goes under the gates. Then, as the water recedes, they come back to their normal places.

The worst contrivance that can be used is a heap of brush, usually hedge, piled across the stream. Every freshet washes it down on the adjoining farm, filling the river with trash and making a breeding place for disease germs and mosquitoes.

If the river is very wide and has a flat-rock bottom, use trestle work with the upstream boarded tight. The water then passes over the inclined plane and, with slight expense, can be made quite permanent.

No matter how hard times are, 50 years hence these will be "the good old times."

BAD CREAM GETS A DYE.

SIXTY-FIVE GALLONS CONDEMNED LATELY, BY DAIRY COMMISSIONERS.

If Unfit to Make Good Butter, a Blue Coloring is Poured in to Prevent its Manufacture—Still Good for Hogs.

The dairyman who keeps his cream until it is too stale for churning into country butter and attempts to sell it on the open cream market in Kansas, runs a serious risk this season. During the last two weeks, D. S. Burch, state dairy commissioner, and his deputy, W. F. Droge, have condemned 65 gallons of rancid cream and prevented its manufacture into butter.

All condemned cream is treated with a harmless blue dye and may be safely fed to hogs. It cannot be made into butter, as the color is fast.

WHAT THE LAW SAYS.

The state dairy law requires that cream be not more than four days old in the winter and three days old in the summer. Most of the cream which has been condemned was from seven to ten days old and was either stale or rancid or showed objectionable flavors. This quality of cream, says the dairy commissioner, is responsible for the poor butter found in almost every public eating house and in many homes. In many parts of the state a high grade of butter cannot be had at any price. Creameries are equipped with the best butter-making machinery, but no butter maker can be an alchemist, and a good quality of cream is necessary for the production of the best butter.

CAMPAIGN NOT DESTRUCTIVE.

The campaign for better butter in Kansas as directed by the dairy commissioner is constructive rather than destructive. Helpful literature has been widely distributed among the dairymen. A system of differentiating the prices for cream according to its quality is in progress on an experimental scale. This, the commissioner believes, will offer a practicable solution to the problem of guaranteeing the public a better quality of butter than has heretofore been available.

CLEAN OUT THE DITCHES.

Trash in a Water Course, Can Do a Lot of Damage.

Watch the ditches along the fields carefully this spring. A great deal of the trouble with soil drainage in eastern Kansas is caused by defective ditches that have been stopped up with weeds and other trash. Clean them out.

A road grader is one of the best tools to clean the water courses with, and the road officials usually will allow farmers to borrow the township machine. And you don't need so many horses hitched to the grader as you would need in road work; four good ones will be enough. About one or two trips up and down the ditch usually will be sufficient to clean out the trash in good shape.

If you can't get the grader it will help to run a plow up and down the water course. While the plow will not throw the trash so far out of the ditch as it should be, it will break the piles of weeds, and allow the water to get through. Sometimes, in the larger ditches, piles of weeds will be found that can be burned, when the weather is dry. Burn all such trash piles you can find.

And if you haven't removed the trash dams, you still can do some good after every rain, if you will take a hoe and go along the ditches and remove the worst of the trash, where it has collected in piles. This will allow the water to drain away faster. But no matter what method you use, keep the drainage ditches free from trash this spring. No common field crop can make the best growth where there is a large quantity of gravity water in the soil. Drain this moisture away.

Born, April 20, a girl to F. W. Grabendike, '07, and Nell (Christopher) Grabendike, a student in 1905 in this college. The Grabendikes live at 3009 East Second Street, Wichita, Kan.

HURRY WITH THE SPRAY.

TIME YET TO MAKE THE MOST IMPORTANT APPLICATIONS.

Ten Days After the Petals Fall a Spray May be Applied for Curculio, Codling Moth, Black Rot, and Blotch.

The time to spray your fruit trees depends on what ails your orchard. D. E. Lewis, a spray expert at the Kansas Agricultural College, told, recently, when to apply poisonous mixtures, and which poisons have been found most satisfactory.

"For spring cankerworms and apple scab, especially, and to aid in controlling curculio and black rot, apply a mist spray when the cluster buds are showing pink," said Mr. Lewis. "For aid in controlling curculio, apple scab, and black rot, apply a spray when the petals are about two-thirds off the flower. This is the most important spray for codling moth, and the material must be forced into every calyx cup.

SPRAY FROM ABOVE.

"At this time the young apple stands upon its stem instead of hanging, as it does later, making it necessary to drive the spray down from above, as well as in from the sides, to throw it directly into the calyx cup. It is estimated that this one spray controls 80 per cent of the codling moth, hence the necessity for making the work absolutely thorough."

A spray is applied ten days after the petals fall, Mr. Lewis says, for curculio, and incidentally for codling moth, black rot, and to aid in preventing early blotch injury. The most important spray for the apple blotch is applied three or four weeks after the petals fall, and another should be applied about four weeks later. Usually these two will suffice, but under unfavorable weather conditions, and with neglected orchards of Missouri Pippins and such susceptible varieties, another spray three or four weeks after the last is necessary. If bitter rot appears, the last two sprayings should aid in its control, though it may be necessary to add a spray later for this fungus.

WHEAT SPRAYS TO USE.

The particular sprays to choose for an orchard would depend also upon the varieties in that orchard. If Missouri Pippins and Ben Davis are present, they must receive the sprays for apple blotch, while if Jonathan, Winesap, and Grimes Golden are included, these sprays may be omitted. All should receive the petal-fall spray and ten-day spray, and if scab is present, susceptible varieties such as the Ingram and Winesap would need the cluster-cup application. Bitter rot is spasmodic in its appearance, being common only in moist, hot weather during the late summer.

The important point to keep in mind is that all sprays are preventive, not curative, and must be applied before the injury appears, to be effective.

SAVE THE SKIMMED MILK.

One of the Most Valuable of the Farm's By-Products—Its Uses.

Skimmed milk is the most important of all the by-products on a farm in the dairy line. It is worth from fifteen cents to one dollar a hundred pounds, according to its quality and the use that is made of it.

Hand separator, skimmed milk is of greater value and of greater use than skimmed milk obtained by any other method. It gives better satisfaction because the milk is uniform every day.

If properly fed, skimmed milk cannot be surpassed as a food for young animals. The greatest danger and largest waste comes from over feeding, especially young pigs and calves.

When the calf is two weeks old, its feed may be gradually changed from whole milk until only the skimmed milk is fed. Calves seem to thrive better on the warm skimmed milk from the hand separator than on the skimmed milk brought home from the creamery, where the milk of several hundred cows is mixed.

If chickens are fed on skimmed milk and allowed a free range, they will grow very fast. In feeding milk to chickens it is greater economy to let the milk stand until it is thick.

Skimmed milk is a very satisfactory pig food. Pigs seem naturally inclined to the sour rather than the sweet milk, but in either case grain must be fed in order to make a balanced ration.

PIGS, ENGLISH, AND BACTERIA.

The Science Club Listened to Three Discussions Monday Night.

You can't fatten hogs on corn alone. There isn't enough of the needful substances, protein and ash, especially protein, in corn to make a good growth. Neither will it help any to feed more ash with the corn, according to a test completed last week by the Kansas Agricultural College. In a discussion before the Science Club last Monday night on the subject, "Some Recent Investigations of the Value of Different Proteids," President Waters explained the experiment just concluded. Charts and lantern slides were used to make clear the progress and the results of the test.

"First, let me say," said the President, "that we know less about protein than we did five years ago. That is, recent study has disproved many old theories. Comparatively little is known about the part protein plays in building up the body and keeping it in repair, but we do know that this part is an important one."

In this study of proteids in hog feeding, five lots of three pigs each were fed different rations. One lot was fed corn only; another, corn and ash; the third, corn and black albumen—containing both protein and ash; the fourth, corn, black albumen, and ash; fifth, corn, shorts, and tankage—a standard ration. This last pen was used for comparison with the experimental lots. The test lasted about nine months. Pigs fed corn alone weighed only about 90 pounds apiece at the end of the feeding, while those fed the standard ration weighed from 300 to 400 pounds. The lot fed corn and black albumen did well.

There is no reason to believe that ash is the trouble with corn, the President said. The difficulty is with the lack of available protein. Probably if hogs could be induced to eat enough corn they might get sufficient protein to put on fat. But this is impossible when corn is fed alone, as this test showed, for these pigs were given all they could eat. The protein test will be continued with different rations.

Another interesting paper to which the Science Club listened closely was, "An Investigation of English Practice in the College," by Miss Ada Rice, instructor in English. In her investigation, Miss Rice attempted to find how much attention was given to English in the departments of the college other than those which teach English subjects. Some instructors, she found, insisted that their students express themselves in good, clear English at all times, while others said they did not have time for it; that the study of fact was more important.

Some recent discoveries in the biological world were reported by Dr. J. G. Jackley, of the bacteriology department, whose subject was, "Current Thought in Bacteriology." One discovery, Doctor Jackley said, enables biologists to tell animal blood from human blood without a chemical analysis. The purification of drinking water on a large scale by adding certain chemicals and by exposing water to the rays of a strong light, was another achievement of which the speaker told.

Potato Cakes and Duck.

Potato Cakes.—Take cold mashed potatoes, form into small cakes with the hands; put a spoonful of drippings into a hot frying pan; put in cakes and fry both sides a nice brown. Serve hot.

Mock Duck.—Take a round of beefsteak, make dressing as for turkey, spread the dressing on the steak, roll it up and tie it. Roast one hour slowly.

NOW A U. P. FARM TRAIN

COLLEGE EXPERTS WILL TALK DAIRYING AND LIVE STOCK.

This Special, Which Begins a Week's Trip May 27, Also Will Have a Car for Women and Girls and One for Children.

Certain parts of Kansas are suited almost exclusively to live stock, forage crops, and dairying. In some of these sections farmers have tried vainly for years to grow wheat. To help them in the right direction the Kansas Agricultural College and the Union Pacific Railway will run a "Dairy and Live Stock Train," the week of May 27. This train will carry lecturers from the college who will talk for thirty minutes at 75 or 80 stations.

STARTS AT CULVER.

The first day's work will be between Culver, on the Lincoln branch, and Plainville; the second day, between Palco and Sharon Springs; third day, Wallace to Ellis; fourth day, Hays to Salina; fifth day, Solomon to Wheaton; sixth day, Onaga to Easton. The five days' journey from Solomon to Wheaton will be by way of Clay Center, over the L. K. & W.

"On the eastern end of this trip we shall talk mostly of dairy work," said J. H. Miller, director of the extension department. "On the L. K. & W. extension it will be largely dairy work. Our purpose is to encourage more and better live stock, and in western Kansas to urge the growing of more forage crops and less wheat."

A CAR FOR CHILDREN.

There will be a car for children in which H. L. Kent and one or two others will give simplified lectures; one car for women and girls, to be in charge of Miss Frances L. Brown and Mrs. Mary Simmons, and two cars for men in which E. H. Webster, dean of agriculture, O. E. Reed, professor of dairy husbandry, George S. Hine, silo expert, and G. C. Wheeler, animal husbandry and silo, will do the talking. This train will pass over all the Union Pacific track in Kansas.

COUNTY AID FOR INSTITUTES.

The College Tells What Organizations Must Do to Get It.

Kansas farmers are awakening to the value of institutes. More are organized every year and interest widens. Since it is possible for institutes to obtain financial aid from county commissioners, inquiry has been raised as to just what the requirements are. Here are the rules:

1. An institute must have been organized for one year.
2. A county institute must have a paid annual membership of at least twenty-five farmers.
3. A local institute must have a paid annual membership of at least fifteen farmers.
4. A county institute shall hold an annual meeting of two days, of two sessions a day, and at least three afternoon meetings a year.
5. Every local institute shall hold an annual meeting of one day, two sessions, and at least three afternoon meetings a year.
6. The annual meetings of county and local institutes shall be held on circuits and dates arranged by the state superintendent of farmers' institutes of the agricultural college.
7. No meeting may be considered an annual institute meeting that does not have at least one representative of the agricultural college present and on its program.
8. To equalize the expense to local committees, the college will ask committees to pay college speakers two dollars (\$2) for each day of the institute session, the college representative paying his or her own hotel bill. Heretofore, the division of expenses has been very uneven. Thus, if there are two college speakers for a one-day institute, each is to be paid two dollars, regardless of whether the speaker stays in town only from morning until evening or whether train connections require him to stay more than one or two days.
9. It shall be the duty of every institute secretary to send to the state superintendent of farmers' institutes, within ten days of annual meetings, a brief report of the meeting, names and addresses of new officers, revised list of current paid-up members with addresses, and a financial statement of all receipts and expenditures and balance on hand. This report should include amounts and lists of any prizes offered and paid by outside people or organizations.
10. It shall be the duty of all executive officers of each institute to actively cooperate with the state superintendent of farmers' institutes in arranging for the annual meeting—making preparations, advertising the meeting, etc.
11. The fiscal year ends June 30 of every year.

When a rogue kisses you, count your teeth.

A Summer School

AT THE

Agricultural College For the Teachers

Summer Term begins June 13 and ends July 25

Agriculture, Manual Training, Home Economics, and Industrial Journalism.

The legislature passed a law requiring all grade and rural school-teachers to pass an examination in elementary agriculture. This law became effective June 1, 1911.

If you expect to teach school it will pay you to invest your spare time, and the small amount necessary to equip yourself properly, in the vocational subjects required by the law.

The Courses Offered

Domestic Science.—Food preparation. Class work 5 hours, laboratory 10 hours per week. Attention is given to method of presentation of domestic science in grade and high schools; to the application of general principles of teaching to the teaching of domestic science; to the planning of courses and equipment of laboratories.

Domestic Art.—Hand and Machine Sewing. Class work 1 hour, laboratory 14 hours per week.

The primary steps of hand-sewing are carefully observed. This knowledge is then applied in the making of a plain or fancy sewing bag, a hemstitched towel, scarf or lunch cloth, an apron, etc. The hand work is followed by practice in taking measurements, and instruction is given in drafting patterns, and making garments by machine. Lectures are given on the history and process of manufacture of the materials used in sewing.

Manual Training.—Woodwork for the grammar grades; woodwork for the high schools; forging; molding and foundry practice; machine-shop work; manual training for primary grades.

Drawing.—Freehand, object, color and design, and mechanical drawing.

Elementary Agriculture.—This course is planned primarily for teachers in the rural and village schools. The subject-matter is selected and the work presented with this end in view. The course covers a year's work in elementary agriculture for the rural and village schools. All laboratory work will be presented in such a way that it can be adapted to the needs of the individual teachers. This course is especially adapted to prepare the teachers to meet the requirements of an act of the last legislature, which requires teachers to take an examination in the elements of agriculture. It includes a study of farm crops, live stock, poultry, farm forestry, soils, agricultural botany, and plant propagation.

General Science.—This course covers economic entomology and zoology, chemistry, elementary physics, electricity and light, vocational education, rural sociology, methods of teaching.

Industrial Journalism.—Ten lectures, especially prepared for teachers, describing the first essentials of newspaper writing: How to prepare copy; news values in town and city; how to prepare a magazine story; newspaper organization; a brief history of journalism, news, agricultural, trade, scientific, educational, commercial, and religious; a few points on libel; high-school journalism. The series is intended only to help teachers who may desire to become correspondents or to add to their incomes by magazine writing.

Other Courses Offered:

English, history and civics; physical education, which treats of this work in public schools, and work in the playgrounds, competitive sports and practical work.

Vocational Education.—The development and significance of vocational education, and a careful study of trade and continuation schools in Germany and other countries, and in this country, with a study of pedagogy as applied to the teaching of vocational subjects in the high schools and in the seventh and eighth grades.

Vocational Guidance.—A study of the need of vocational guidance for pupils in the seventh and eighth grades and the high schools, etc.

Educational Excursions

The college has planned excursions under the leadership of experts to the experimental fields, the stock feeding yards, dairy and poultry barns, the gardens, orchards, the tree-planting plots, and the hog-cholera serum station.

Expenses

The only fee charged by the college will be the regular incidental fee of \$3.00, which the state law requires to be charged of all students who are citizens of Kansas. Nonresident students will be charged a fee of \$20.00 for the first term and \$10.00 for each term thereafter. Board and room may be had for from \$4.00 to \$5.00 a week.

For further information address

H. J. Waters, President

Box E, Manhattan, Kansas.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, May 18, 1912

Number 30

THE BIG DAY—JUNE 13

TWO HUNDRED SENIORS ARE TO BE GRADUATED THIS YEAR.

Bishop Partridge of Kansas City, Mo., Will Preach the Baccalaureate Sermon Sunday, June 9—The Usual Student Activities.

Commencement Day at the Kansas Agricultural College, this year, will be June 13. About 200 seniors will be graduated. The Commencement exercises will be in the Auditorium, at ten o'clock in the morning. The baccalaureate sermon will be by the Rt. Rev. Sidney C. Partridge, bishop of Kansas City, Sunday, June 9. A speaker for Commencement Day has not been chosen.

THEN "LIFE" BEGINS.

Unusual sentiment always attaches to Commencement time. Those who wear the caps and gowns realize more fully that the years they have spent in acquiring a college education must be put to a practical use. Some have spent four years. Some entered in the preparatory school, and they have been here for six years.

The graduates will have their business meeting in the Old Chapel. The faculty-alumni luncheon will be on the campus, Commencement Day. In the afternoon the alumni-varsity baseball game will be played, and the men who have scooped grounders and hit homers in the old days will try to overcome their stiffness in a contest with younger men.

A BUSY WEEK.

The seniors will be busy. A baccalaureate sermon, a class play, class-day exercises, and the final exercises will give the class of '12 plenty to do. The seniors will have their examinations earlier than the other students. Final examinations for undergraduates begin June 5 and end June 12. Here is the program:

FORTY-NINTH ANNUAL COMMENCEMENT.

SUNDAY, JUNE 9.

Baccalaureate sermon, by the Rt. Rev. Sidney Catlin Partridge, D. D., bishop of the Kansas City Protestant Episcopal Church. College Auditorium, 4:00 p. m.

MONDAY, JUNE 10.

Recital by the music department, Auditorium, 8:15 p. m.

TUESDAY, JUNE 11.

Annual meeting of the board of regents, president's office, 9:00 a. m.

Senior class play, Auditorium, 8:15 p. m.

WEDNESDAY, JUNE 12.

Senior class-day exercises, campus, 8:30 a. m.

Alumni business meeting, Old Chapel, 2:00 p. m.

Choral Union concert, Auditorium, 3:30 p. m.

and 8:15 p. m.

THURSDAY, JUNE 13.

Commencement exercises, Auditorium, 10:00 a. m.

Annual address

Faculty-Alumni luncheon, Women's Gymnasium, 12:30 p. m.

Cadet band concert, Auditorium, 2:00 p. m.

Alumni-Varsity baseball game, athletic field, 4:30 p. m.

PLENTY OF SERUM, NOW.

The College is Selling Some Hog-Cholera Vaccine to Other States.

With one million cubic centimeters of anti-hog-cholera serum in storage, the Kansas Agricultural College now is able to supply all demands for serum in this state and is sending shipments to other states where the cholera plague is doing damage. Recently, 50,000 cubic centimeters were sent to California and 20,000 to West Virginia. This was the second shipment sent to California.

Dr. F. S. Schoenleber, state veterinarian, says that serum will keep in storage for several years. The college is better prepared now than ever before, he says, for an outbreak of hog-cholera.

JUNIORS "AT HOME" MAY 24.

The Senior Class to be Entertained in Great Fashion.

The juniors will entertain the seniors at an informal reception May 24. The party will assemble at the gymnasium,

and then, if the weather is nice, pass through an arbor to the campus, where a Japanese pantomime will be given. From here the party will go to the Auditorium to see the junior farce. This will be a two-act playlet, presented by eighteen characters, and a chorus. The story of the play tells of the seniors in their political battles. After the "show" the party will return to the gymnasium. Here they will eat, talk, and listen to music by the orchestra. The shepherd's crook—decorated with many ribbons—then will be given to the juniors for safe-keeping.

THIS CREAM BAD, ALSO.

Dairy Commissioners Found 47 Gallons in Baggage Cars—Busy Season.

Forty-seven gallons of rancid cream were condemned last week by D. S. Burch, state dairy commissioner, and his deputy, W. F. Droge. These men have authority to go anywhere that milk or cream is bought, sold or transported, to test it. The cream found last week was in baggage cars.

The state dairy commissioner is trying to get the residents of Kansas to realize fully the value of pure milk. Several cities and towns are taking up the matter. Some have passed ordinances, others have not, for trivial reasons. For example, one town in the state had a provision in the ordinance that all cows from which milk was sold should be taxed or licensed every year. The fee was to be twenty-five cents for every cow. Two members of the council would not vote for the ordinance because of this provision. In the same town there was a dog license of \$5 for every dog, and these same councilmen were not only in favor of this tax but paid it on their dogs.

In helping these towns the commissioner tries to teach the people his way of testing. Not because this is the only way, but it is an easy and accurate method, and if every town adopts it, a regular, systematic plan of testing can be followed. Ft. Scott has a very good ordinance. In fact, it is so good that Mr. Burch is using it as a model for other towns. A copy of this ordinance will be sent to any city or town that applies for it.

A new man, E. G. Maxwell, has been appointed as deputy to assist Mr. Burch and Mr. Droge during the summer when the number of law violations is greatest. These men will make tests, gather testimony, and prosecute law violations. A check is kept on all parts of the state at all times. No prosecutions are started until it is known definitely that a "case" has been secured. Not a case has been lost this year. Most of the persons arrested pleaded guilty without trial.

SENIOR PLAY TO BE FUNNY.

Twelve Characters in "My Friend from India," to be Given June 11.

The senior class will present "My Friend from India," for the annual play this year. It is a comedy in three acts. There are twelve principal characters. Those taking part are: Roy Alexander, Edward Isaac, Harry L. Smith, Emma Kammeyer, Frances Case, Russel Fuller, Fairy Lightfoot, Kathrina Tucker, Mary Hickok, James West, Loren Fowler, and Guy Pingree.

The play is a story of modern times, and the characters are soon entangled in humorous mix-ups which keep them busy until everything terminates in a joyful ending. The play will be given in the Auditorium, Tuesday night of Commencement week.

Help From Engineers.

A. A. Potter, professor of steam and gas engineering, Floyd Pattison and C. M. Scott, seniors in mechanical engineering, went to Garden City, Kan., last week to test oil engines.

MONEY IF CROPS FAIL

STATE SHOULD HAVE FUND TO LEND FARMERS, MILLER SAYS.

A Million Dollars, Maintained for Those Who Suffer Successive Crop Failures, Could be Lent at Low Interest—Would Prevent Hard Times.

Kansas should have a state fund of one million dollars to lend farmers on a low rate of interest when crops fail. Such a fund would enable farmers to borrow money without mortgaging their farms to "loan sharks." It would prevent the hard times that are bound to follow successive crop failures, especially in western Kansas. This is the belief of J. H. Miller, director of college extension at the Kansas Agricultural College, who proposes the establishment of a fund of this sort. He believes farmers deserve it.

HOW TO LEND MONEY.

"This money could be lent," Mr. Miller said, "on farms and farm produce at, say, three per cent interest, the principal to be paid in five annual payments or less, depending on the crops of the following years. Loans should be made for the purchase of seed, for feed for maintenance of stock, work horses, milk cows, etc., and for food and necessities for the family."

"The state, or even a county, should be able, also, to make three per cent loans on grain in crib or elevator when prices are too low for profit. The farmer is just as much entitled to profit on his wheat, corn or hogs as is the dealer. In July and August this year, thousands of farmers will be compelled to sell their wheat, no matter if the price should be beaten down to fifty cents a bushel. And right here I want to say that 'crop killers' don't hurt the farmers of Kansas one-half so much as do the 'crop boosters.'"

AN OLD DOCTRINE.

"Twenty years ago a political party advocated a good many new doctrines, declared to be crazy by another political party and foolish by another. Nevertheless, most of the platform principles of the Populist party have been adopted by both the other parties. Of all the 'platform planks' of that 'deceased party,' the one of the government lending money on farms and farm products seemed to me then and now as about the most sensible and the sanest doctrine any political party advocated. I had never thought of it before, but I have ever since held it to be sound, and have continually advocated it, although it seems to be the one 'plank' not taken up by the other parties and not seriously advocated by the press nor by any party leaders."

"The farmers of western Kansas have passed through the most trying winter for thirty years. In some counties there were two successive wheat failures, and in almost thirty counties there was almost a total failure of corn and other forage crops. Such a season sent thousands of farmers to the banks and to friends for cash loans and to merchants for credit, and they in turn will be forced to call on the banks for loans or the wholesale houses for credit."

WHY NOT KANSAS?

"Interest rates seem high, and it is not unbelievable that many were forced to pay, to 'curbstone' bankers, indirectly, usurious rates of interest. The average man does not object to paying interest half so much as he fears the day his note falls due. Unquestionably, thousands of families denied themselves many of the common comforts and necessities of life, to avoid borrowing more money. A small mortgage on a big farm is one thing, but a big mortgage on one's small farm, his homestead, hangs like a millstone,

and like an evil spectre haunts a man's waking as well as his sleeping hours.

"Why should not Kansas inaugurate a system of loans through some revolving fund, handled by the county commissioners or the county treasurer, to meet such an emergency as this? Capitalists, bankers, real estate men and politicians objected strenuously to all suggestions about a special session of the legislature, but did they relieve the distressed condition of the small farmer with credit or loans with low interest? If our constitution needs changing before this can be done, let's change it. But it doesn't need changing half so much as do the hearts of some men."

TO DISCUSS RURAL LIFE.

The Third Annual Conference at the Kansas Agricultural College, June 25 to 28.

The third annual Rural Church and Rural Life Conference will be held at the Kansas Agricultural College, June 25 to 28. This is the second year it has been held at Manhattan—last year the meetings coming Commencement week. Many men of note will be on the program, which at this time has not been fully completed. Two of the most prominent speakers are Dr. Warren H. Wilson, of New York, and M. B. McNutt, pastor of DuPage rural church of Illinois. Doctor Wilson is superintendent of the Rural Life Department of the Presbyterian Church of America and also is chairman of the National Committee for the study of the rural church.

The plan is to make this a short course in rural economics and social problems. Pastors, Sunday school superintendents and teachers, and members of all societies and clubs interested in this work of neighborhood improvement are invited and urged to attend. There will be an opportunity given for free and open discussion of the questions by all the delegates who care to do so.

The afternoons will be left open for demonstration work. At this time, stock judging, grain judging, some trips to the experimental plots, demonstration fields, gardens and orchards, and other practical work will be given by experienced teachers from the college. Persons interested in the advancement of the rural church and rural life must know about farm work and farm problems, hence the arrangement of this part of the conference.

COMPETITIVE DRILL IN JUNE.

Captain of Best-Drilled Company of Cadets Will Receive a Sword.

The annual competitive drill of the cadet corps will be held sometime in June. The captain of the company that executes the maneuvers best will receive a sword, the gift of the arms company that supplies the equipment for the cadets.

Lieutenant R. P. Harbold, commandant, expects to add an additional feature to this year's competitive contest. He hopes to have a separate contest for the lieutenants, the winner to receive a sword. The lieutenants will take charge of the companies, and skill in handling the cadets will decide the honors.

Loaf Corn Bread.

Mix together two cupfuls of flour, one cupful of corn meal, one teaspoonful of salt, one half of a cupful of sugar. Beat together the yolks of four eggs, stir into them 2½ cupfuls of milk, and add to the dry mixture. Beat until smooth, adding two table-spoonfuls of melted butter; add the whites of the eggs beaten to a stiff froth and three heaping teaspoonfuls of baking powder. Bake 30 to 45 minutes, according to the thickness of the loaf.

NEW A. H. HEAD—COCHEL

THE PENN STATE EXPERT HAS BEEN APPOINTED BY THE REGENTS.

He Has a Long Record of Experience and is a Leading Authority on Many Subjects—Will Come to Kansas July 1.

Breeders and stockmen in Kansas are to have a new leader. Wilbur A. Cochel, professor of animal husbandry at the Penn State College, has been elected head of a similar department at the Kansas Agricultural College. He has accepted. Professor Cochel fills the vacancy made a little more than a year ago by the resignation of R. J. Kinzer, who became secretary of the American Hereford Breeders' Association. President Waters has been acting head of the department since. The new head will begin work July 1.

WAS BORN A HOOSIER.

Professor Cochel is a native of Indiana, but he received his college training at the University of Missouri. While there he was graduated from the arts course and later in the course in agriculture. He then was employed as assistant in agriculture at the World's Fair in St. Louis. From this position he resigned to accept a fellowship with the state board of agriculture of Missouri. He divided his time between research work and farmers' institutes, in which work he was notably successful. Professor Cochel then went to Purdue University, Indiana, as assistant in animal husbandry. He arose through the line of promotion until he was made associate professor. Two years ago he was elected professor of animal husbandry at the Pennsylvania institution.

"It is not too much to say," said President Waters, yesterday, in speaking of the appointment, "that Professor Cochel has done more work in beef feeding than any other man. During all his work and studies he has given special attention to this line of work. He is considered an authority on silage in beef production and on short-fed cattle. He organized the Indiana Cattle Feeders' Association, which was the first organization of its kind. Since then similar associations have sprung up all over the country. He has had good experience in the show ring, being associate professor of animal husbandry at Purdue when that institution showed 'Shamrock,' grand champion steer of America three years ago."

HE IS A PRACTICAL MAN.

"In Pennsylvania he has been a popular and successful teacher, building up a strong department. He is very practical and his work appeals strongly to farmers. With him, the farmers' interests always are kept in view. He is a fluent writer and a pleasant speaker. Kansas is indeed fortunate in getting a man with so great ability and such experience and training. Two other states were offering inducements when he accepted the invitation from Kansas. Stockmen in Pennsylvania offered to contribute money in addition to his salary if he would remain with them. He comes to Kansas because the field is larger."

P. N. Flint, assistant professor in charge of the department of animal husbandry, resigned, recently, on account of ill health. Mr. Flint gave valuable service to the department during his two years at the college.

The Country Needs Tin.

Tin is one of the minerals in workable deposits of which the United States is lacking. Our production in 1910 was valued at only \$23,447, according to the United States Geological Survey, while our importations were worth \$33,913,255. We need one or two large tin mines.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS Editor-in-chief
PROF. C. J. DILLON Managing Editor
DR. J. D. WALTERS Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MAY 18, 1912.

THE GRADUATE.

The time is approaching when the colleges and high schools will graduate hundreds of students. Some of the high school boys and girls will go to college. A few of the college men and women will continue their higher education.

But what of the many who are going to work? Will they succeed? Has their education helped them? How many will make good? In some instances it will take time. The engineer has learned but little more than theory. He must have several years of practical experience before he can do his best. In the hurry of this age, men often judge too quickly. They look at the outside only. Give the graduate a fair chance. Statistics prove his value.

BEGIN AT HOME.

You wouldn't hurt her feelings for the world, would you? Of course not, but you did not stop to think just how it sounded when you answered in a surly voice, "I'm busy," when your mother asked you to do something for her.

"Let us not save up for those we love the most. The fatigue and ill humor which we manage to withhold from those we meet in mill or market."

Some persons seem to believe it right and proper, when they go home from a trying day's work, to vent their wrath and ill humor upon the members of the family. Just turn over a new leaf and you will soon find it just as easy to be polite and considerate as to be grouchy. D. L. M.

MOTOR CAR OR BATH?

The romance of the world is contained between the covers of books, for most persons. For them the novel, the interesting, the things worth while, lie beyond the border of their horizon. Mostly they live through a struggle to get something, which will make them happier, more respected, more envied by their neighbors. Sometimes this race ends behind a grand front door upon which hangs a great, brass knocker, a door to a house, not a home. This, quite often, is the pseudo-refinement that demands a motor car before it buys a bath tub and uses jewelry more than a toothbrush.

You find in such a house few papers, no books, no music, but perhaps a bank account. Riley wrote a poem, "How John Quit the Farm." The present writing is the prose of "Why John Leaves the Home."

And why shouldn't he leave? A few good books would have admitted him to the company of the best minds of the world. A little music, too, if you please; a little less potato patch and more tennis court. More books and less plowing. More conveniences in the house, and fewer blue Mondays; fewer cold suppers and more smiles. Then the trip over the horizon will be a visit, not a pilgrimage. The romance will be at home. The commonplace abroad. R. I. D.

THE ROAD LAW—PENALTY.

It has been declared that because Chapter 248 of the Session Laws of

1911 did not specifically provide for a penalty for not classifying the roads, making the necessary levy to construct and maintain the state and county roads and the bridges on the same, and appoint an engineer, that no penalty was imposed, but Section 2107 of the General Statutes of 1909 reads in part:

"That every person who is either elected or appointed to the office of county commissioner of any county in the state of Kansas who shall willfully violate any of the provisions of the law or fail to perform any duty required of him by law shall be adjudged guilty of a misdemeanor and upon conviction thereof shall be fined not less than \$50 or more than \$1000, or be imprisoned in the county jail not less than thirty days or more than one year, or be both fined and imprisoned."

About thirty counties in the state have classified their roads and made the required levy to construct and maintain the state and county roads. Where the county boards have not classified the roads they have, usually, been requested by certain tax payers not to make the levy, and the county board believed the people did not want them to act in the matter. But in a few cases the county boards did not care to assume the additional duties.

A FEW MORALS.

The affairs of life are governed by some very definite principles, and any man who does not follow these principles will suffer. The lack of a good, efficient education is holding more men down to common work in Kansas, today, than any other thing. And the old sage who tells you, young man, that an education is not essential is mistaken, to put it mildly. You can take this as an axiom: If you are not well trained, if your mind has not been improved by years of drill and study, you will not make the success you might make. The world demands well-trained men, and those who are so trained will get the things most worth while, while the masses will have to be content with the lesser rewards. And that is as it should be.

Not less important than education is the matter of morals. If you think that morals is not an important business asset, just try to get an important position with a big business firm, and notice how closely the manager inquires into your personal habits. He doesn't desire to hire a man who gambles, drinks or has bad habits of any kind. And if you have any habits that will not stand the white light of publicity, you had better quit them, if you desire to do anything worth while in life.

One is known by his associates, very largely. The wrong kind of friends will ruin the best man in the world. And another thing, you should choose your friends, as much as possible, from those who will teach you something. The scum and floaters of the streets never will teach you anything that is worth while. The time you spend with them is worse than wasted.

You have the ordering of your own life, and you had better sit down and plan the conduct of your affairs. Have a definite aim in life, and work toward that goal. Avoid the persons and things that will tend to hold you down. F. B. N.

STAY IN THE COUNTRY.

Farmers should mind their own business. The place to do this is on the farm. That farmers should move to town as soon as they can afford it, and when they are ready to live, is a mistake. All that they have they owe to the farm and country. They should stay there and make the country a better place in which to live. When the farmer retires it is the first time in his life when he is in a position to give time and thought to rural-life problems. Why, then, should he take his superior knowledge and most valuable experience to the town or city? Why move to town to build the good house, have the well-kept lawn, flowers, household conveniences, or bath tub?

If the rural school is to be consolidated, the ex-farmer on the farm is the man to decide just how it is to be

A Golden Text.

The Lord reigneth; let the earth rejoice; let the multitude of isles be glad thereof. Clouds and darkness are round about him, righteousness and judgment are the habitation of his throne.

—Psalms 97: 1, 2.

done. If farmers' protective and co-operative associations are to be organized, the farmer is the man to do it. He is the man to work out means to prevent landlord and tenant farming in this country; to unite the denominational factions of the rural church, so that unity and religion will supplant the present petty differences and church decay. He is the man to find out all that is wrong with the present rural church and to work out and apply remedies.

The retired farmer has time and money, and should spend some of it in traveling. If he tours about over this

state publications on farming. They are free, and will form a valuable addition to the collection.

Comply with the rules of the state circulating library and you can get the state books for your community. Boxes of state books, arranged according to the line you wish to study, are loaned to the local organizations. It will pay to arrange to get these books.

Subscribe to some standard magazines and farm papers. No rural library is complete without them. See that you get good farm papers. It doesn't pay to read some of the alleged farm papers that merely carry some reading matter to fill up the spaces between the advertising. Subscribe to papers that exist for the benefit of the reader, as well as the business office.

A good library in every rural community would do much to raise the standard of Kansas farm life.

VOCATIONAL EDUCATION.

Educate boys for the positions for which their abilities best fit them.

Her Prayer.



N E of the most devout of American women, whose name was a synonym for all that was lovable in her race and sex, and whose career was a continuous benediction, confined her verbal devotion to two words. Every night before she slept and every morning on waking she raised her eyes to heaven with an earnest "Thank you!" The rest she lived, or left to God.

—Ladies' Home Journal.

and other countries, he will see all agricultural pursuits from the standpoint of the practical farmer; he will be able to detect the good and the bad; he will see where his community and methods are ahead and where behind the remainder of the world.

The retired farmer is in a position to develop his pet hobby; if it is fine stock, he may breed that and render a service to his brother farmers by so doing; he may originate a new variety of field crop, a new tillage method, or a new implement.

The farmer will be far happier, and do infinitely more good, if he remains on the farm in touch with farm life than if he moves to town. R. P. C.

RURAL LIBRARIES.

Every rural community in Kansas should have a library. Many of them already have such intellectual centers. If there is not such a community library in your neighborhood, establish one at once.

The money to purchase the books can be obtained by subscription, box suppers, and the like. The library should be placed where the people of the neighborhood readily can obtain access to it. It would be well to fit up a room in one of the farm homes, and then the library can be open every day. If it is not practicable to place the books in a private home, they can be placed in the schoolhouse or church.

Not many books need be purchased at first. Buy standard books. Get some good fiction, history, and poetry. Make the agricultural section one of the features. Buy standard books on soils, crops, and live stock.

Write to your congressman, and he can get you the government publications on farming, free of charge. There are many government books on other subjects he can get for you, also, if you ask for them. Then write to the agricultural college and get the

The misfits in the world are those persons who are in the wrong occupation. They discovered too late that their talents did not fit them for the work they chose, and middle age is too late to change one's life, or to attempt to develop latent talents. That is the reason vocational education should be introduced into the grade and high schools of the country, for decisions will be made long before middle age is reached.

Vocational education is instruction in the industries. Let the boys take manual training and the girls domestic science. Let the boys learn, in a general way, of engineering and the work in the specialized classes of that profession, and let them understand the economic condition of the engineering field. Let them know the work that is being done, and remains to be done, in agriculture.

Teachers often wonder why some big, husky boy in high school betrays an unconquerable aversion to the best efforts of the gifted Cicero. Send that same boy into the manual training shop, and he may prove unusually skillful with the tools at hand. The work appeals to him. He learns something that touches closely his life. That is education, the culture that comes from a mastery of one's chosen occupation.

This does not mean that the study of the sciences and the so-called cultural subjects should be neglected. All are necessary. But the graduate from the modern high school has only a faint idea of the work that really is done in industry and the professional occupations. After he learns, he tries to change his course of life, sometimes successfully, sometimes not.

Educate the boys, and the girls, too, along vocational lines. This sort of education brings out the big things, the hidden impulses, the likes and dislikes of the students, and leads to contentment. C. G. W.

The Road.

The hated road leads straight ahead For torn and blistered feet to tread. A hostile stretch of glare and dust Through which we plod because we must.

Where are the starlike bloom and spray That wreathed the road of yesterday. The towering wood whose leafy braid Touched the hot earth with gracious shade.

The tender rose that seemed to hold All hearts within its heart of gold? These with the day of joy are gone. And still the bare road beckons on.

The bare road! Harsh and gray it gleams To bid us from our Land of Dreams— The land of green and amethyst That borders on the road we missed.

Yet here beside the moorland pool The wind of dusk blows deep and cool. And where the sunset hues are spent Breaths the white blossoms of content.

"Oh, bitter road!" at morn we said. And strove along uncomfited.

"Oh, blessed road!" at eve we say. And kneel beside the hated way.

—H. R. P. in Providence Journal.

SUNFLOWERS.

Salina may enlarge its city limits to seventy acres. That would give enough farming land to pay the city debt.

One of the state's witnesses in the Thaw inquiry, recently, was "grilled," according to the esteemed Clay Center Republican.

An empty valise has been found near the Wildcat. Can this be the one that was stolen from Woodrow Wilson in Chicago?

Anxious.—We appreciate your state of mind. But it will be needless to watch; we shall make no comment, this year, on Memorial Day.

If only the Beloit Call would quit bunting its deaths, life would be brighter. "While the world stirs she sleeps gently," is so dispiriting.

If "My Lady of the South," ever gets through, in the Weekly Star, we may begin to "View with alarm" a long, long visit from "The Mischief Maker."

The Wichita Beacon printed this headline, a few days ago: "Rev. Priest Was Given Motor Car." Will some keen-witted student please point out the errors?

Age has not withered Funston, but it certainly has given him much fat. His latest pictures resemble the leader of a little German band, as pictured by the comic papers.

More vacation reading from the California University: "A New Method of Heterogeneous Hybridization in Echinoderms." This book will be lent to only one person at a time.

Students who lose in debate should not be disheartened. Think of all the hours of talk that William Jennings Bryan, one of the world's greatest orators, has put over. And look where he is.

A Kansas City actress has won "undying fame" by refusing to appear in tights at Peoria, Ill. We cannot understand how she came to be in Peoria, in the first place, or how the subject of tights came up.

About the gloomiest thing on this globe is a fat man dieting. If any man answering this description meets with a word of sympathy he will confer a lasting obligation by addressing "Brunette," this office.

The principal objection to the dictagraphs now used by some of the professors is the danger that the pesky things may repeat certain observations not necessarily a part of the record. Especially with fly time coming on.

The May Outing contains a thrilling piece by E. P. Powell, in which he tells of the fine work being done by "Dean" Waters in the Missouri College of Agriculture. The excellent work to which he refers is being done right here, in little old Kansas.

Otto Steifel, the St. Louis brewer, The Star says, is managing the Taft boom in Missouri. We are not allowed to discuss politics—but—we supposed it had been Steifeled. Someone certainly Otto Steifel it. (Hark, hark, the dogs do bark.)

We have received a bulletin from the Department of Agriculture, in Washington, about the control of diseases of ginseng. The man at Independence, Mo., who has six acres of ginseng—the only tract in the United States, some say—may have this bulletin upon application.

MAKE THE FARM HANDY

CONVENIENCE OF BUILDINGS SAVES
DOLLARS IN TIME.

Reducing the Mileage on One Farm Will
Save the Owner \$1200 in 30 Years
—Have the Barn East of
the House.

When farm buildings are so inconveniently arranged that it requires several unnecessary miles every day to do the chores, many dollars worth of time is lost. C. F. Chase, assistant in farm mechanics in the Kansas Agricultural College, was telling one of his classes, recently, how much could be saved by a sensible arrangement of things on the farm.

SAVING THE TIME.

"I know of one farm, particularly," Mr. Chase said, "that was arranged solely for convenience. The barn was moved within 200 feet of the house instead of 400 feet, as it had been. The interiors of the various buildings also were rearranged and made as handy as possible. If you figure the result of this closely you will find that this farmer will have saved \$1233 in 30 years on his own time, or in 10 years on his time and that of his two hired men. These figures, though approximate, show the value of a systematic plan of things on the farm."

The house should be on the highest elevation of any of the buildings, Mr. Chase said, and should be protected on the north by a windbreak, which in turn serves to protect the orchard from the south. An east front for the house is very desirable.

A FARM GROUP.

The barn is the center of operations and about it should be grouped the other buildings in the most convenient places. The barn should be situated so that the northwest and southwest winds will not blow over the barnyard toward the house. For this reason, it is best to have the barn and yards east of the house. The barn should be open to the north and to the south in order that the south winds may blow through. It should serve as a windbreak for the yards. Ordinarily, the cribs and granary should be near the barn and the hog and cattle yards. Let the hoghouse have a south front and be so situated that feed may be brought from the granary to the feeding floor by means of a track and carrier. It is best to have the machine shed west of the barn and wagon yards.

It is very essential that the well be above the cattle and hog lots, or at least not in a drain from them. Have the dairy close to the pump so as to be handy to fresh water.

LOCAL NOTES.

Miss Selma Nelson, '12, will teach domestic science at Cando, N. Dak.

Miss Mina Ogilvie, '12, will teach domestic science and art at Moran, Kan.

Charles Lyness, '12, has been elected to teach agriculture at Annandale, Minn.

Miss Mildred Inskeep, '12, has been elected to teach domestic science and art at Olathe, Kan.

L. M. Ambler, '12, will teach agriculture and manual training in the Chase county high school at Cottonwood Falls, Kan.

Miss Frances Brown and Miss Adah Lewis, both of the extension department, are at Wakefield, Kan., this week, with a movable school.

J. E. Kammeyer, professor of economics, will deliver the commencement address for the Mound Ridge, high school, May 17, and for the Iola high school May 21.

Miss Emma Kammeyer, a senior in the home economics course, has accepted a position in the Sterling, Kan., high school for next year. She will teach domestic science.

Ray Carle, '05, talked to the senior electrical engineers one day last week. Mr. Carle was the consulting engineer on a power plant which has just been built in Washington, D. C., and he discussed the work connected with putting in this plant.

THEY LET THE ENGINE WORK.

The Wheelers, of Tyro, Kan., Are Trying
"The New Farming."

When Andrew and Clarence Wheeler, of Tyro, Kan., went back to their father's farm after spending four years at the Kansas Agricultural College, they began to improve things. They had many new ideas about raising crops, growing good fruit, and making the dairy pay. It wasn't long until the old place, under the management of two young scientific farmers, began to look different.

In a recent letter to Albert Dickens, professor of horticulture, Andrew Wheeler tells of more progress. The orchard has been sprayed, the corn planted after a thorough preparation of the seedbed and making about a mile of terrace ditches to keep the soil, and some "handy" work also has been done. Read this:

"Clarence and I have rigged up our separator house and hitched our engine to the churn and separator. Four of us can milk our fourteen cows, do two churnings, and separate before breakfast at 6:30, now. That saves us lots of time and energy."

"We have had no frosts to hurt the fruit, the tornadoes have missed us, and the hail so far came too early, so the prospect is good for everything. We want a good show of fruit next fall because the Tyro Farmers' Institute then will be a sort of a fair."

"I enclose a picture of our barn and silo. The barn roof is galvanized iron. It was planned and built especially for cattle and has storage for straw, hay, etc. I don't doubt but that it saved us more than the interest on the investment by protecting our cows and what roughness we put into it after November 1, 1911, when it was finished."

WHAT IS DIRTY MILK?

Dairy Commissioner to Decide, Soon, What
It Shall Be, Officially.

Experiments are being made just now by D. S. Burch, state dairy commissioner at the Kansas Agricultural College, to determine just how much dirt must be in milk before it may be, officially, called dirty. One would suppose one-tenth of one per cent of dirt a very small amount, but it has been found that this is very dirty milk. Hardly any milk before it is strained would contain that much foreign matter.

The method of experiment is simple. A known amount of dirt is put into a certain amount of pure milk and this milk is put through a forced strainer. The sediment is collected on a piece of cotton. The object of the test is to find a standard of cleanliness which may be required in the production of milk for the market.

Anyone wishing to know the condition of the milk he is buying may bring a sample pint to the office of the dairy commissioner and a test will be made without charge.

Making Honeybees Work.

The department of entomology has just completed a study of the fertilizing agents of the apple blossom and finds the common honeybee a more frequent visitor to the flower than all other species of insects. A part of this study was in an effort to determine the actual value of the honeybee as a fertilizing agent. For this purpose two medium-sized, heavily budded trees were inclosed in screen wire cages. In one of these cages a hive of Italian bees was placed and allowed to remain during the blossoming period. If the experiment proves that the bee is a practically important agent in apple fertilization, it is likely that the practice of putting bees in the orchard at blossoming time will be much more practiced in the future than in the past. This part of the test will be completed soon.

On the Other Hand.

Rhubarb is about so high, and asparagus is thinking of coming out, very soon, of the subterranean depths of mother earth. We are patiently waiting for the horse-radish leaves and lambs-quarter to grow, as we have taken our belt up to the last hole.—Blue Rapids Times.

HAYING IN THE TROPICS.

H. T. NIELSEN IS MAKING THE GRASS
GROW IN THE PHILIPPINES.

Sent to Manila by the United States Department of Agriculture, this Kansas Man
Is Contending with White Ants,
Stamps, and Drouth.

When the United States Department of Agriculture decided to send a crop expert to the Philippines, last summer, to assist the natives in a greater production of hay, H. T. Nielsen, a Kansas man, was selected. Mr. Nielsen then was an assistant in the farm crops department of the Kansas Agricultural College. He arrived at Manila, where he is stationed, in November, last, and wrote of his trip and his "first impressions" in a January issue of THE KANSAS INDUSTRIALIST. This paper has received another communication from Mr. Nielsen, in which he tells of progress in his investigations and experiments. This is the letter:

To The Kansas Industrialist:

The days are pretty warm now, but the greater part of the nights are sufficiently cool so sleeping is not a perspiring occupation, and we get up in the morning rested and refreshed.

I presume my friends would like to hear a little from me regarding my work. Frankly, I have not made the progress I should like to have made. During the dry season no crops make any growth worth mentioning unless they are irrigated. There are innumerable small irrigation systems on the Island of Luzon, as it is particularly well watered by streams. Most of these systems are very crude, and all, even the best of them, very wasteful of water. It seems that the Filipinos have very little idea of economizing in water, and unless a field, or "paddy," is level you dare not let the natives do the irrigating, for they will turn such a volume of water onto the paddy that it will be washed and gullied beyond serviceability. I have had a great deal of trouble in this respect. I now always personally look after the irrigating, and have to watch it very close.

WORKING WITH RAW LAND.

My greatest handicap has been the land I have had to work with. Raw land had been chosen for the work. It was covered with stumps and native grasses, which form a considerably stiffer sod than Kansas blue stem, and ant mounds. These ant mounds are terrible. They are built by the white ants, which are very destructive to nearly all wood work in the islands. Their mounds are from three to ten feet high. Their other dimensions are such as to form a decent-looking truncated cone; they are generally twelve to eighteen inches across on top. The land was very uneven, and in the leveling and smoothing process a great deal of subsurface soil naturally came to the surface, which of course was not desirable. All of this preliminary work, and indeed practically all the field work, except for sugar cane, is done in mud, the thinner and slushier the better, apparently. But I will describe this entire process in a future letter.

Any one familiar with the difficulties of preparing a seed bed for small grass seed will realize that the task was not easy. But they see only an insignificant part of the trouble. The plows turn about a four-inch furrow and never go more than four inches deep. Seldom more than half the ground is turned and the trash, of course, never is turned under. There aren't any disk harrows here, and the smoothing harrows are made of bamboo, all wood, you see.

SOIL BAKES BADLY.

Now, if you Kansans can imagine these conditions, you will have a pretty fair idea of my problems here. Of course, old land would have been much better, and had we had old land the seeding could have been done much earlier in the dry season, which would also have been a great advantage, since the soil bakes quite badly now, while there was little trouble in that respect three months ago.

I have about eight acres seeded to grass and was supposed to have sown eighty. This disparity arises from the fact that the work is on the land of the Tabacalera Company, a large corporation of the islands, which furnishes all the labor. Until 1912 they had been raising one crop of rice a year, but now they are trying for two crops a year. Laborers and work stock—water buffalos—have not been available in sufficient numbers to meet the requirements, and as the company's managers here get a commission on the rice produced, and nothing on this grass work, the grass proposition, naturally, has suffered.

Of the eight acres, some patches are nine to ten inches high, others just coming up now. I have a fair stand

in most cases, and I believe that under more favorable conditions grass growing and hay making here will be profitable.

H. T. NIELSEN.

FORMALDEHYDE FOR KAFIR SMUT.

Treatment of Seed Will Prevent a 10 Per
Cent Loss—Roberts.

Farmers of Kansas are paying an annual tax of more than 10 per cent on kafir smut. This is the opinion of H. F. Roberts, head of the botanical department of the Kansas Agricultural College. Professor Roberts believes there is that much loss on every crop of kafir and sorghum, and that this loss can be stopped by the use of formaldehyde. He has proved it can be done by experiments made at the agricultural college.

Dilute the commercial formaldehyde in water, the professor says, so that you have a solution of one-half of one per cent. To make fifty gallons of the solution, it is only necessary to add two pints of formaldehyde to forty-nine gallons and three quarts of water. Put the seed to be planted in a loose burlap bag and hang in the prepared solution for two hours. After it is dried the seed will be perfectly free from smut. Never plant clean seed in a field that has grown a smutty crop.

The formaldehyde solution may be used many times, so long as the seed is kept covered. In soaking the seed, allow about three pints of the prepared solution for every four and a half pounds of seed, or at the rate of about four and a half gallons to the bushel of seed. The formaldehyde generally retails at about fifty cents a pound, making the cost of the solution about eight cents a bushel for the seed treated. To insure getting the best quality of formaldehyde it is best to send direct to a wholesale house.

ALUMNUS WILL GROW APPLES.

Eight Hundred Trees to be in the Care of
Rees Hillis.

Rees Hillis, who graduated in last year's class, has leased an apple orchard of about 800 trees near Troy, Kan. Most of the trees are of the Ben Davis and Gano varieties. The trees are to be sprayed and cared for under the direction of the entomology department of the Kansas Agricultural College, the college getting the benefit of the spraying data.

The material and spraying is to be paid for by Mr. Hillis, and he is also to market the apples, the owner getting one-half of the proceeds and Mr. Hillis getting one-half. The trees are about 18 years old, and are full of blossoms. If nothing unusual happens to the crop, Mr. Hillis expects 3000 or 4000 bushels from the orchard this year.

The summer spraying of the college orchard has been in charge of Mr. Hillis the last three years, during which time he has been working with the entomology department. He will make four sprays during the season. The first spray was applied last week.

DEFINITE PLANS FOR 1912 ROYAL.

The Directors Again Set Aside Five Nights
For Horse Show.

The American Royal live stock show, which will be held at its old location in the sheep division of the stock yards, October 7 to 12 this year, will probably be the last American Royal held at the stock yards. It has been definitely decided that the show is not to use the sheep division after this year. It has also been decided that the show is not to leave Kansas City. Sites other than the stock yards for the American Royal in 1913 and thereafter are being considered. Electric Park, which was once considered for this year's show, is mentioned as a possible future permanent home for the American Royal. The Commercial Club is to conduct negotiations along that line.

At a meeting of the directors of the American Royal at the Hotel Baltimore, yesterday, the following dates were set for cattle sales: Herefords, October 8; Shorthorns, October 9; Galloways, October 10; Angus, October 11. The horse show, always a successful feature of the American Royal, will again have five nights of the show week.—Drovers' Telegram.

HORSE AT \$1150 A FAKE.

AN OKLAHOMA FRAUD DISCOVERED.
BY KANSAS REGISTRY BOARD.

A Stallion With a Fancy Pedigree Brought
a Good Price, But an Expert Investigated and the Buyer Got
His Money Back.

The day of the fake pedigree also is passing. In raising horse breeding in Kansas to a higher standard, the new stallion law has been very effective. Stallions standing for public service as pure-bred, registered horses must have their certificates of registry examined and approved by the secretary of the State Live Stock Registry Board. And the sound and unsound condition of the horse must be included in all advertisements. The effect of this law is reaching even beyond Kansas. Here is an example:

GAVE HIS NOTES.

A man in Wann, Okla.—W. A. Rees—bought a seven-year-old Percheron stallion, recently, giving as payment notes for \$1150. A certificate of registry was furnished with the horse. The dealer sold Rees the stallion as a pure-bred, registered Percheron.

Oklahoma hasn't a stallion law such as the one in Kansas, so, to assure himself he hadn't received a bogus certificate, Rees wrote to Dr. C. W. McCampbell, secretary of the Live Stock Registry Board at the Kansas Agricultural College, and asked him to examine the certificate of registry.

Doctor McCampbell found the certificate was given by a registry association not recognized by Percheron breeders.

IT WAS A FAKE.

The sire of the stallion sold Rees was given in the certificate as Bajazet 45893, French number 51365. This stallion was not imported to America until 1906. As the horse Rees bought was foaled in 1905, a year before its alleged sire was imported, it couldn't have been the get of the horse given in the certificate.

The certificate was worthless. The purchaser had given his notes for \$1150 for a stallion of unknown breeding.

The secretary of the Kansas Live Stock Registry Board wrote Rees the facts about the stallion. The dealer, learning the fraud had been exposed, surrendered the notes and took back the stallion.

TO STUDY KANSAS CITY ART.

Students in Architecture to Take a Trip,
May 28.

The students in architecture are planning a trip to Kansas City for May 28. J. D. Walters, professor of architecture and drawing, will chaperon the crowd. The students will study the many examples of architecture that Kansas City affords.

The date originally set for the trip, May 18, was changed when it was learned that the National Association of Architects will be in session in Kansas City, May 28. About a dozen in the advanced classes in architecture expect to make the trip.

BOTTLED MILK IN A STABLE.

For That Offense a Kansas City, Kan.,
Dealer Was Fined \$25.

On his recent inspection trip to Kansas City, Kan., William F. Droge, deputy state dairy commissioner, found several milk stations and dairy farms in a very insanitary condition. Two milk depots and two dairy farms were closed because they were operating unlawfully.

Fred Tarson, who was bottling milk in a livery stable, was fined \$25 and costs. His business was closed until the sanitary precautions required by the state were observed.

Worth Knowing.

When purchasing a roast of veal have the butcher lard it with salt pork. This will make the meat juicy instead of being dry, and it will have a fine flavor that can be had in no other way.

CLUBS TO FIGHT SCRUBS.

A BREEDERS' ASSOCIATION IN EVERY COUNTY COULD DO IT.

Such an Organization Might Hold a Show Every Year and at Least Two Sales, Annually—No Member Should Use a Grade Male.

A breeders' association should be organized in every county in Kansas. Any farmer who is interested in the building up of better herds should be eligible to membership. The association should help sell the surplus stock of the members, and it could hold a show every year and at least two sales, if the members have the stock to sell.

The principal aim of the association should be to raise the standard of the live stock of the county, and the members should declare war on the scrubs, pure-bred and grade. No member should use a grade male, and every inferior pure-bred animal should be sold for slaughter. Breeders must get rid of the idea that all pure-bred animals should be sold for breeding purposes. Many such animals are fit only for meat, and they should be fattened and sent to the block promptly. The pure-bred herd of beef animals that can't make its owner good money raising beef steers is not the best herd from which to pick foundation stock. Don't be afraid to cull out the poor animals.

PAY FOR ADVERTISING.

In order to get all of the farmers interested, you must have publicity in establishing the association and in advertising the shows and sales. Much of this publicity can be gotten through the local papers, if the officers of the association manage things right. Don't ask for too much free advertising from the county papers. Carry advertising in them and the editor will be willing to print all of the news features of the association's work, free. Then some advertising should be carried in the state farm papers, also. Of course, the extent of the advertising will be governed by the number and value of animals owned in the association.

Hold the annual show and sale of live stock in the fall. Require that all animals entered in the sale must be reported to the secretary of the association at least six weeks before the sale, and have them all inspected by an inspector who has been elected by the association. No animal should be sold that is not of good quality. Remember the principal object is to have a lasting and beneficial effect on the live stock interests of the community, and this requires that the poor animals shall not be used for breeding purposes.

TOO MUCH "HOT AIR."

Print the sale catalogue on good paper. Get out the book in neat shape, and don't run so much "hot air" as is found in many sale catalogs. Give special mention to the animals only when they deserve it. If statements are made which the quality of the animals does not warrant, the buyers will find it out, of course. More money may be gotten on sale day if you tell the truth.

Much of the improvement in Kansas live stock will come through the influence of the breeders' associations. They are merely one phase of the co-operative methods that are beginning to make up so much of modern life. Is there such an association in your county? If there is not, talk the matter over with some of the leading farmers and organize one. It will pay, not only from the standpoint of the financial returns, but also from the standpoint of the encouragement which it gives towards a better and more intelligent rural life.

FOR PROTECTION FROM FIRE.

New Hose, Extinguishers and Escapes Purchased by the College.

A new outfit of fire hose, a hose reel, and a large number of fire extinguishers have been ordered. The five-inch fire mains are being extended to all parts of the campus. Within a few weeks every building will be convenient to two or more fire plugs. The

state carries no insurance on college buildings.

Two automatic fire escapes have just been built on the Auditorium. They are made on the principle of a "chute-the-chutes." A person may fall into one head first, feet first, or sideways and get out safely. The doors are so constructed that they can be opened only by being struck by a heavy object from the inside. Two iron stair fire escapes also will be put on the north side of the building, and the seats in the balcony rearranged.

The arrangement of seats on the first floor has been changed, and the electric wiring overhauled and made safe. When the improvements are completed it is expected that every one of the more than 2000 persons whom the building will seat can get out in from one and one-half to two minutes.

NO IDLE TIME THERE.

A Few Pieces Showing How Some Farmers Keep Even Always.

Some farmers plant one thing and wait—and starve or borrow if that one thing fails. They hate to milk. They haven't time to make a garden. They have no live stock except, perhaps, a disconsolate cow or two and a few uncurried and unhappy horses. The farmers quoted in these items from the *Drovers Telegram* have "side lines." Also, they have money. No one will have to buy seed for them. Read:

A very tidy bunch of yearling heifers of his own raising, good enough to bring over \$54 each, was marketed yesterday by Sam Weichselbaum, a prosperous farmer of Ogdensburg, Kan. This bunch of heifers averaged 678 pounds, and sold for \$8, which is perhaps the highest price ever paid here for a straight heifer shipment of the number sold, 58 head. Mr. Weichselbaum is the owner of a farm of about 1000 acres. He raises his own feed, and his own feeding stock. These heifers were the high-grade Hereford breed, and were well colored.

W. G. Tobin of Highland, Kan., was in with one load of two-year-old steers of his own feeding that brought \$8.75.

R. G. McAninch of Manhattan, Kan., was in with a load of cattle of his own raising and feeding that averaged 1252 pounds and sold for \$8.35. They have been on feed since February 15, receiving a ration of ear corn with shock corn cut on an ensilage cutter for roughness and about two pounds of cottonseed cake a day. They made about a 300-pound gain since put on feed.

RAISING BELGIAN HARES.

A Native of Europe that May Be Produced Profitably Here.

The so-called Belgian hare is a domesticated form of the wild rabbit of Europe, being bred with reference to its value as a food animal. Its flesh is now generally considered better for food than that of the ordinary hutch rabbit. Rabbits may be propagated without costly investment in land and buildings, and they possess the further advantage that they contribute another animal to the farm stock that may be killed and prepared for the table at short notice. As a rule, the same treatment applies to all forms of rabbits, except the lop-eared variety, which require heated quarters in winter. Care in the selection of stock is the first important consideration upon entering upon the raising of rabbits, and for the rest of the enterprise only observation and judgment are essential.

While not returning large profits, the raising of rabbits in a small way may be made interesting and fairly remunerative, as well as affording an agreeable change in the family diet where ordinary meats are high priced or difficult to obtain. The jack rabbit of Kansas has not added luster to the rabbit family, and the cottontail is not in good repute. But either is fairly "good eating."

Eat, drink, and be merry, for tomorrow you may be married.

DON'T BE A JAY DRIVER.

RUNAWAYS USUALLY ARE CAUSED BY IGNORANCE IN MANAGEMENT.

A Running Conversation With the Team and a Constant Slapping of the Lines Are the Real Marks of a Poor Driver.

A very large per cent of runaways are caused merely by ignorant driving. And it would be safe to say that eighty-five per cent of the women of this country do not know how to drive horses. It is probable that if all the men were taken to account there would be an equally large per cent who do not have the least idea of what are the right and wrong ways of driving.

Horses, until they are spoiled by ignorant drivers, have very tender mouths. It is only the constant jerking and yanking of the reins that hardens them. This yanking is one of the most frequent causes of runaways.

A man who really understands horses can get ten times as much work from them than one who merely drives. And the man who understands his horse is not the one who keeps up a running conversation with the animal all the way down the street; nor the one who slaps the reins and jerks the animal's mouth until it is raw and sore.

WHEN THIS HORSE FELL.

One of the best examples of mutual intelligence and coöperation between a man and his horses was seen a few days ago near the grounds of the Kansas Agricultural College. Teams were hauling sand to the college. At one place where the road crossed the street-car tracks, boards had been laid between the rails, and, as it had been raining, these boards were very slippery. As this team got to these boards one of them slipped and fell. They were a pair of beautiful grays, great, big fellows, slick and well muscled. But the thing about them that most attracted the attention of the observer was the heads and eyes. They were so intelligent, and patient, and seemed to know that their driver was their friend and would do his part in getting them out of any difficulty.

There was no useless kicking and struggling to arise, in this case. The horse that was down seemed to realize that it would only run the risk of hurting itself and its mate in such an attempt. It lay perfectly still while another team was brought up and hitched to the front of the tongue. This team pulled slowly ahead and the gray got to its feet, and the team walked off the boards, not pulling an ounce until they had reached firm footing. All this time the driver had remained on his seat, the reins slack, except when tightened to help the horse to rise, with only a quietly spoken word now and then. These grays and their driver understood one another.

HORSE A FRIENDLY ANIMAL.

Horses are easy creatures to make friends with if you really have a friendly feeling for them, and once they are your friends they will respond readily to instruction.

The correct way to drive is to sit erect, with the reins held rather taut just about at the waist, not up under the chin. By holding the reins rather tight you not only have better control over the horse in case he should become frightened, but you are also better able to help him should he stumble.

Much of the poor driving seen every day undoubtedly is due more to carelessness than to absolute ignorance. But if anything looks jay it is an able-bodied man driving down the street, slapping the reins over the back of his faithful plug, and clucking and cackling like an old hen.

Between a Tooth and a Finger.

We have been rather handicapped this week by having our printer, John Francis, partially disabled. He got his finger mashed the first of the week and then had a tooth pulled which broke off in the pulling, and between the two he has been about done up.—*Prairie View News.*

A Summer School

AT THE

Agricultural College For the Teachers

Summer Term begins June 13 and ends July 25

Agriculture, Manual Training, Home Economics, and Industrial Journalism.

The legislature passed a law requiring all grade and rural school-teachers to pass an examination in elementary agriculture. This law became effective June 1, 1911.

If you expect to teach school it will pay you to invest your spare time, and the small amount necessary to equip yourself properly, in the vocational subjects required by the law.

The Courses Offered

Domestic Science.—Food preparation. Class work 5 hours, laboratory 10 hours per week. Attention is given to method of presentation of domestic science in grade and high schools; to the application of general principles of teaching to the teaching of domestic science; to the planning of courses and equipment of laboratories.

Domestic Art.—Hand and Machine Sewing. Class work 1 hour, laboratory 14 hours per week.

The primary steps of hand-sewing are carefully observed. This knowledge is then applied in the making of a plain or fancy sewing bag, a hemstitched towel, scarf or lunch cloth, an apron, etc. The hand work is followed by practice in taking measurements, and instruction is given in drafting patterns, and making garments by machine. Lectures are given on the history and process of manufacture of the materials used in sewing.

Manual Training.—Woodwork for the grammar grades; woodwork for the high schools; forging; molding and foundry practice; machine-shop work; manual training for primary grades.

Drawing.—Freehand, object, color and design, and mechanical drawing.

Elementary Agriculture.—This course is planned primarily for teachers in the rural and village schools. The subject-matter is selected and the work presented with this end in view. The course covers a year's work in elementary agriculture for the rural and village schools. All laboratory work will be presented in such a way that it can be adapted to the needs of the individual teachers. This course is especially adapted to prepare the teachers to meet the requirements of an act of the last legislature, which requires teachers to take an examination in the elements of agriculture. It includes a study of farm crops, live stock, poultry, farm forestry, soils, agricultural botany, and plant propagation.

General Science.—This course covers economic entomology and zoölogy, chemistry, elementary physics, electricity and light, vocational education, rural sociology, methods of teaching.

Industrial Journalism.—Ten lectures, especially prepared for teachers, describing the first essentials of newspaper writing: How to prepare copy; news values in town and city; how to prepare a magazine story; newspaper organization; a brief history of journalism, news, agricultural, trade, scientific, educational, commercial, and religious; a few points on libel; high-school journalism. The series is intended only to help teachers who may desire to become correspondents or to add to their incomes by magazine writing.

Other Courses Offered:

English, history and civics; physical education, which treats of this work in public schools, and work in the playgrounds, competitive sports and practical work.

Vocational Education.—The development and significance of vocational education, and a careful study of trade and continuation schools in Germany and other countries, and in this country, with a study of pedagogy as applied to the teaching of vocational subjects in the high schools and in the seventh and eighth grades.

Vocational Guidance.—A study of the need of vocational guidance for pupils in the seventh and eighth grades and the high schools, etc.

Educational Excursions

The college has planned excursions under the leadership of experts to the experimental fields, the stock feeding yards, dairy and poultry barns, the gardens, orchards, the tree-planting plots, and the hog-cholera serum station.

Expenses

The only fee charged by the college will be the regular incidental fee of \$3.00, which the state law requires to be charged of all students who are citizens of Kansas. Nonresident students will be charged a fee of \$20.00 for the first term and \$10.00 for each term thereafter. Board and room may be had for from \$4.00 to \$5.00 a week.

For further information address

H. J. Waters, President

Box E, Manhattan, Kansas.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, May 25, 1912

Number 31

PLAN TO TAKE A REST.

IF THE SEASHORE IS IMPOSSIBLE,
CAMP RIGHT AT HOME.

There's More Quiet, Restful Enjoyment in
a Home Vacation—If That Is What
You Need, Glance at Some of
These Suggestions.

Don't give up your vacation this summer because you do not have a lot of money to spend. Some persons rush about trying to get ready to take a vacation. And this is wrong. If you are going, don't fuss around buying a lot of new clothes. Pack up what you have and start.

Maybe you have laid away a little money that will provide for a small part of your vacation—perhaps the car fare—but you don't have sufficient money for an expensive summer resort. You can have just as good a time and yet just spend that money for car fare, and a little more for incidentals. These incidentals include a little place half way up a mountain, where you can rent a tent or a little cabin for a very small amount, and get a genuine rest.

WEAR OLD CLOTHES.

Don't take any fussy, new clothes with you. Wear old ones. For if a man wears a disreputable old pair of overalls and a battered straw hat, and the woman part of the firm a last year's sailor dress and an old blue sunbonnet, the fish will bite better. The cost for such a camping expedition is small; and you can even get out of your own state and camp without spending very much money.

Some girls, last summer, had a jolly time camping on the Chautauqua grounds. They combined mental and physical rest, attended the meetings, and had a good time in general. A party of boys did the same thing. The cost is a trifle—the tent right has to be paid for, but the board is not very much.

When you were little you used to run when you saw a movers' wagon coming. You supposed it was a gypsies' wagon, and that they were going to get you. Then later you played you were going on a long trip. The clothes basket covered with an old shawl, with barrel hoops for bows, made a covered wagon. You put in to it your best doll and all the provisions you could get and dragged it along. You camped at various places—the last one in bed because you wore the bottom out of the basket. Why not realize these plays now, and take a genuine covered wagon and go just as far as you can?

A FARM CAMP, TOO.

On a venture, you are perhaps one of those busy families who live on a farm and cannot leave very easily. But you can pitch a tent over in the south pasture down by the creek and just run home long enough to feed the chickens and milk the cows, but take your meals over there and sleep there. Or, if you cannot leave for even that distance, you have a back yard, haven't you? Put up a tent, and sleep and eat in it. Nothing would help a farmer's wife more than to bundle up all her worries and leave them for a few days. But this is not always practicable on the farm.

Whatever you do to make a living, choose something for your vacation that will be a complete change and isn't much work. Get away from work and worry and go back to your tasks refreshed in mind and strength.

TO FIGHT A PEST, \$275,000.

A Kansas Man Will Head a Blight Commission in Pennsylvania.

A Kansas man high up in the United States Department of Agriculture at Washington is in Manhattan this week. He is M. A. Carleton, cerealist in charge of grain investigations,

bureau of plant industry. He is an alumnus of the Kansas Agricultural College, class of 1887.

Recently, a furlough was given Mr. Carleton so that he might take the chairmanship of a commission in Pennsylvania which is to fight the chestnut blight in that state—a big undertaking. The commission has \$275,000 with which to accomplish this purpose. Mr. Carleton, whose old home was in Manhattan, will visit here for a few days and then go to his new work in Pennsylvania.

ATWOOD FOR MAIN ADDRESS.

Commencement Day Speaker to be the Eloquent Kansas City Attorney.

John H. Atwood, of Kansas City, Mo., will be the Commencement speaker for the Forty-Ninth Annual Commencement of the Kansas Agricultural College. Mr. Atwood is a noted lawyer. He is a member of the law firm of which U. S. Senator James A. Reed is the head, and was next to Mr. Reed in the defense of Dr. B. C. Hyde in the famous Swope murder trial.

Mr. Atwood formerly lived in Leavenworth. He is leading counsel for the National Association of Shippers, composed of merchants and large shippers of freight, whose object is to obtain a readjustment of freight rates. Mr. Atwood is an orator of much ability. His command of language is remarkable and his facility of expression and cheerful outlook unusual.

MUSICIANS MEET IN DECEMBER.

State Association of Teachers Chose the Agricultural College this Year.

Several hundred musicians will visit Manhattan, December 4, 5 and 6 of this year, when the State Music Teachers' Association meets at the college. Prof. R. H. Brown is vice-president, and chairman of the program committee, of this organization, and promises some musical programs for the people of Manhattan next December. Charles W. Landon, of this city, is president of the association.

A home-talent recital will be given one night. Another night will be devoted to a recital of artists from all over Kansas. Mrs. Patrick Crow of Lawrence, Kan., and a Cherokee Indian will give some beautiful descriptive Indian pieces. Charles W. Cadman, who has spent a great deal of time among the Cherokee Indians, also will give some pleasing Indian selections. Mr. Cadman is an authority on Indian music.

WHEAT FREE FROM PESTS.

This Season Too Cold and Wet for Greenbugs and Hessian Flies.

Insects are doing practically no damage to wheat, this spring, according to Dr. T. J. Headlee, state entomologist at the Kansas Agricultural College. There are a few chinch bugs, generally distributed, but practically no greenbugs. Hessian flies are likely to do some damage in southeastern Kansas, but not elsewhere.

If this season is dry, there is danger of considerable damage, but if the season proves to be a wet one, no particular harm will be done. The past winter was so severe, and this spring is so wet and cool, that most of the over weathering forms of insects were killed.

Small Kitchens.

A kitchen, someone once said, should be just large enough to hold one stove and one woman. Of course, it was a man who made this assertion, for every woman knows there is no end to the things a modern kitchen should contain, but nevertheless the statement was founded on good, hard sense.

STORE THE EXTRA EGGS.

WITH WATER GLASS THEY CAN BE PRESERVED FOR EIGHT MONTHS.

Now, When the Hens Are Laying Best, is a Good Time to Prepare for a Scarce Next Winter—Method is Simple.

Preserve your surplus eggs in stone jars with water glass. Take advantage of the hen these spring days, when she is laying every day, by storing the eggs not needed, until they are worth fifty or sixty cents a dozen next winter.

Water glass is a grayish silicate having about the consistency of molasses. It is very cheap and should be mixed with water in the proportion of about one pound to one gallon of water. The water should be boiled and allowed to cool before the water glass is added.

LARGE ENDS UP.

"The eggs should be placed in jars, vertically, with the large end up," said W. A. Lippincott, professor of poultry husbandry at the Kansas Agricultural College, in explaining the process. "The air cell is at the

Things to Think About.

Does it pay to disk stubble land immediately after the binder or header in preparation for plowing? How soon thereafter should land be disked immediately after the binder or header be plowed? Will the results be more favorable from early plowing than from medium early plowing or late plowing? Which is the better practice: to disk immediately after the binder or header and plow as soon as possible thereafter, or to plow immediately after the header and then disk the plowed ground? Why is it that better results can be obtained from land early plowed, or early disked and then early plowed, than from land plowed in September that has not been disked previously? Will it not pay to disk ahead of lister?

Does it pay, and if so, in what part of the state, to plant winter wheat between corn rows while the corn is still standing? Does it pay to plant wheat on corn land after removing the crop? What are the principal objections to planting wheat after corn or between corn rows?

large end, and if the contents of the egg rests on this cell it might be ruptured and the egg spoiled. The eggs should be packed close enough together that they will be held in place by one another. After a layer is packed in, enough water glass should be poured over them to completely cover. Every day's supply can be packed away when gathered, the only requirement being that the eggs must be covered with the preserving mixture while fresh. The jars should be kept in a dark, cool place. A dry cellar is all right for this purpose."

Don't wash the eggs before packing. There is a delicate covering over the shell that seals the pores in the shell of the egg, keeping it air proof. When this covering is washed off, the germs in the air enter the egg and decomposition sets in. Clean all containers perfectly before using. The jars must be of glazed stone and the lids must screw on tightly.

NOT A COMMERCIAL METHOD.

"The fact must be emphasized," added Professor Lippincott, "that this method is not advised for commercial egg preserving. But it is an excellent method for home use. No matter how fresh they are after being preserved,

eggs must be marked 'preserved' if put on the market."

There is one disadvantage in cooking preserved eggs. They break when boiled. This can be overcome by piercing the shell at the large end with a darning needle, thereby allowing the air in the air chamber to escape. In this operation one should be careful not to break the membrane holding the contents of the egg.

"With absolute success in preserving, the eggs will keep fresh eight months, and will poach successfully at the end of this period," said Professor Lippincott. "But the success varies with the season. Sometimes the whites of the preserved eggs will appear watery and have a flat taste. These are perfectly wholesome for baking but not for table use."

DON'T FORGET THE SPECIAL.

The Dairy and Live Stock Train Starts Through Kansas Monday.

Kansas is not producing enough meat. Fewer cattle, by nearly 175,000 head, were in Kansas in 1911 than in 1910. Farmers trying to get ahead on strictly grain production might make their farms more profitable by raising more live stock. That will be one of the points most emphasized next week by experts from the Kansas Agricultural College who will accompany the dairy and live stock special on the Union Pacific.

"Idle time is what takes the profit and increases the risk of the average farmer," says J. H. Miller, director of college extension at the Kansas Agricultural College. "Too many farmers are depending on one crop. They are all wheat or all corn or all something else, and when not engaged with the particular specialty they have chosen they are idle. This is poor farm management. There are so many ways in which farmers might make up for this idle time. They might carry on dairying or they might feed live stock, beef or dairy type; produce draft horses, especially in western Kansas where the water is good and the air develops the lungs. They might have several good brood mares and have some two- or three-year-old stock to sell every spring. They might grow cowpeas, Spanish peanuts, or silage.

"A farmer in Phillips county is going into the business of raising mules. He now has 50 good brood mares. Mules are always marketable. If a farmer objects to milking, and this perhaps keeps many out of the dairy business, he should give his attention, as a side line, to sheep and horses and beef; anything to keep himself and his horses busy throughout the year. The farmer's idle hour is like the railway's empty box car—it is idle, unproductive capital."

The train will start from Culver, Monday morning, May 27, and will run over most of the Union Pacific track in Kansas. The last stop is at Easton, in eastern Kansas, Saturday afternoon, June 1.

An Outing for the Seniors.

The senior class took a holiday, Thursday, and had a picnic. They went to Fort Riley on a special train and stayed all day. Lieutenant Harold acted as chaperon. The entertainment consisted of a ball game between the seniors and the soldiers, a polo game, and fancy riding by officers in the riding halls. Dinner was served in the fort mess hall.

Science Club Heard Two Papers.

The Science Club heard two interesting papers at its regular meeting last Monday night. Dr. T. J. Headlee, professor of entomology, discussed "The Hessian Fly and Wheat Seeding." Neil E. Stevens, instructor in botany, spoke on the subject, "Wood Rot and the Hardy Catalpa."

A TEST FOR BAD CREAM.

THE STATE DAIRY COMMISSIONER'S INVENTION TELLS THE QUALITY.

Before 100 Dairymen D. S. Burch Explained His Discovery, Recently, and Showed How to Operate It—It Will Mean Better Butter.

Certain substances when placed in an alkaline solution have one color but when put in an acid change their color or lose it entirely. That is the basis of an important discovery made recently by D. S. Burch, state dairy commissioner, whereby cream may be tested for its qualities to make good butter. Mr. Burch explained his test last week before one hundred dairymen, who met at the Kansas Agricultural College in a butter convention. This test gives creamerymen a way to grade cream so that a higher price may be paid for the better grade. Heretofore, cream was not tested for quality; only for the quantity of butter fat it contained, which was determined by the Babcock test.

NEEDED AN ACID TEST.

It has been found that cream which contains too much acid—more than five-tenths per cent—will not make good butter. All that was needed, then, was a test that would prove that bad cream contained too much acid. This, Mr. Burch's test will show.

An alkaline solution made red with the indicator mentioned, and two little dippers, about the size of a thimble, placed on the end of a steel wire, are all the instruments needed. These dippers are made so that one holds a proportionate amount of cream to the amount of red alkaline mixture held by the other. A dipper of cream and a dipper of the solution are poured together. If this mixture turns white the cream is of inferior quality. If the pink mixture retains its color, less than five per cent of acid is present and the cream is first grade.

BETTER BUTTER SHOULD RESULT.

Creameries where the test is used are paying a difference of two cents a pound on first- and second-grade cream. Which means that the test will be an incentive to farmers to use the most sanitary methods with their cream so that it will bring the highest market price. And when farmers begin to take good care of their milk the standard of butter in this state will be raised, Mr. Burch says.

The quality test, first put into use in January, now is used successfully in sixteen stations in Kansas. More than 65,000 deliveries of cream have been graded, and none of the operators has experienced any difficulty in making the test. It can be done, accurately, in less than a minute.

ANOTHER GIFT TO THE LIBRARY.

Two Thousand Books and Magazines Received from the University of Missouri.

A very useful and valuable gift has just been received by the college library, from the University of Missouri library. It consists of about 2000 books and magazines, some of them bound.

In selecting this material from a duplicate collection at the University of Missouri, special efforts were made to choose what was most needed for the Kansas Agricultural College, to fill up the gaps in the files of periodicals.

The Annual Picnic.

The annual spring picnic of the Webster and Eurodelphian literary societies was held Monday, May 20. The societies went to Hackberry Glen, near Manhattan. H. H. King, assistant professor of chemistry, and Mrs. King were the chaperons. A ball game, a band concert, and a picnic supper were the features of the outing. About 120 persons were present.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRES. H. J. WATERS Editor-in-chief
PROF. C. J. DILLON Managing Editor
DR. J. D. WALTERS Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, MAY 25, 1912.

ROTATION OF FEEDS.

The feeds fed to animals should be rotated. Much is heard of the rotation of crops to build up or retain the fertility of the soil. Animals will not do their best on one kind of grain or hay. The rotation should vary with the animal and the cost of the feeds. Some feeds will furnish more food at a cheaper price in some seasons than others. Try a change once in a while and see if more and better results are not recorded. L. T. P.

FARM GARDENS.

Every farmer should have a garden. And he ought to do the work, too. Most farmers will eat the garden stuff, but few of them care to grow it. Some are lazy; others think they do not have time. If the garden is planted in long rows, so it can be cultivated with a one-horse cultivator, much labor is saved. Sometimes several vegetables will have to be planted in one row, to make the row long enough. A farmer, if he is near a good market, can make money from his garden. He can save still more by growing his own vegetables, both for summer and winter use. If you did not plant a garden this summer, begin soon to plan one for next year. It isn't too late to grow some mighty appetizing and healthful "green things."

SUNDAY DINNERS.

The Sunday dinner requires too much work. It isn't right to make a woman spend Sunday morning and, perhaps, part of the day before, to get ready to feed the other members of the family. Even when visitors are expected the large Sunday dinners should be eliminated. If these visitors are your friends, they should not expect or wish the women to wear themselves out cooking for them.

Many cheap, easily prepared meals can be had—meals that do not mean all day Saturday spent in preparation. Sunday should be a day of rest, and on that day people should eat less and work less, instead of eating more and working harder, as they do now. Where is mother to get her rest—in the next world? L. T. P.

NEIGHBORHOOD CO-OPERATION.

Too many farmers fear to talk business with their neighbors. They may be friendly, but when it comes down to advising one another, the farmers are not doing what they should. If one farmer has tried a certain crop or has planted his grains according to a certain plan, and the results were unsatisfactory and unprofitable, it is not more than fair to his neighbors to tell them. The same is true if the results prove successful.

The best aids to good neighborhood cooperation are the farmers' institutes. At the meetings, not only does every farmer get the experiences of his neighbors, but he receives valuable advice from representatives of the agricultural college. These men have obtained their facts from the experiences of neighborhoods, counties, states, and nations. They know what they talk

about. They work out their results by cooperating with others. Why don't more farmers do this? L. T. P.

IRRIGATION.

To supply water for the farmers of the arid regions is a great problem. Thousands of dollars are going to build dams, to dig tunnels, to take rivers from their banks and run them into fertile valleys, to build ditches—all to help the western farmers. In Kansas wells must be depended on for most of the water used for irrigation purposes. Some wells have been dug and are paying big dividends. Others will be built.

It is only by irrigation that the best results can be obtained in the western part of the state. The soil is rich, the climate good, but the rain either does not come at the right time or enough water does not fall. With water furnished, good crops can and will be grown.

ECONOMY.

"Economy" is a word seldom heard on the farm. Many farmers do not know what it means. It is the difference between failure and success for many. The saving of a few minutes, a few steps, several pounds of feed, or a new tool or horse, may be much or little. But even if it is little, these little things amount to bigger things. If a farmer is making expenses, only, and can find a place where, by economy, he can save a few dollars, these dollars will be profit.

Economy does not mean, necessarily, that a person must be stingy or selfish. Far from it. Some of the most economical men and women are neither stingy or selfish. The more economical a person is, the more money he should have. The more money a man has, the more philanthropic he should be. Are you economical? L. T. P.

SUCCESS.

What does success mean to the average person? Is it figured in dollars and cents? The "progressive" idea is that money, alone, does not measure success. If a farmer produces a crop of wheat averaging twenty bushels an acre he is doing better than most of the Kansas farmers. But by a little extra effort or study he could have grown twenty-five or thirty bushels. Suppose a man is putting \$5000 in the bank every year. He works from four in the morning until nine or ten at night. No papers are taken, no books read. Sunday is spent trying to catch up the odds and ends. Is this man successful? Hardly. If you are feeling down-hearted because you are not making so much as your neighbor, look around you and see if you are not more successful than he. L. T. P.

YOUR BACKBONES.

Develop both of your backbones. A strong mental backbone is as much of a necessity for great achievements as a muscular physical one. Success can be obtained occasionally with an athletic make-up, but a person lacking a mental spinal column seldom is heard from.

Gymnastic exercises and a judicious amount of labor may make your physical spine powerful. Lessons and lectures most certainly help to mature your mental backbone, but the best results are obtained when the student applies himself to the uncatalogued course. This course includes industriousness, honesty, integrity, and perseverance. These subjects are not scheduled, or taught by an M. A. or a B. S., yet they are all important for the accomplishing of things. Every one can be said to be a mental vertebra and every one is necessary in the mental backbone.

Learn to stick with the hard problems. Cultivate habits of punctuality and persistency. Be square and above board. Learn to sacrifice. Learn to dream, but keep both eyes open. Industry never was introduced to loafing; don't introduce them. Every time you control some selfish impulse your backbone is making a better strength test. Arnica and rub-out help physical backbone charley horses; grit and "sand" are remedial agents

A Golden Text.

A man that beareth false witness against his neighbor is a maul, and a sword, and a sharp arrow. Confidence in an unfaithful man in time of trouble is like a broken tooth, and a foot out of joint.—Proverbs 25:18, 19.

for mental bruises. Acquire strength in both your vertebral columns and the jogging up will be an easy matter. A. G. V.

THE STALLION LAW.

Kansas has a law known as the stallion law. It requires every man advertising a stallion for public service to have the horse examined for condition of soundness, and the certificate of registry approved if a pure-bred and registered. This stallion law created the State Live Stock Registry Board. The secretary of the board, Dr. C. W. McCampbell of the Kansas Agricultural College, examines the certificates to see if they are correct and the horses for condition of soundness. When Doctor McCampbell is unable to examine a stal-

pense, but under our state constitution no internal improvement work can be done by the state.

Most of the township funds are now spent for roads connecting cities and market centers, and when these roads are taken over by the county the present township levies will provide ample funds in most cases to maintain the other roads, even after reducing the township road levy by an amount equal to the county road levy. The cities in the different counties paid no road tax under the old law, and they pay none now if a county road levy has not been made. There is not one good valid reason why political boundary lines within a county should exempt certain property from road tax. Good roads are a benefit to the whole people, and all should bear their just proportion of the expense. The valuation of the city property in the different countries varies from about 5 per cent to more than 50 per cent of the total valuation of the county. If this property paid its share for the public highways the taxes need not be any higher on farm property than they have been.

The system of management provided by this law for county and state roads

The Home Makers.

Resolved, That we congratulate the state of Kansas on the efficiency of the Kansas State Agricultural College, the largest institution of its kind in the world, and most especially are we proud and appreciative of the department which is elevating the work of the home to the plane of professional service, believing that there is no higher service than that of catering to the best interests of the family.

—Kansas Women's Press Association.

lion, owing to a rush of office work, he sends a competent veterinary surgeon.

When a stallion has been examined by the Live Stock Registry Board the certificate of registry and the condition of soundness are vouched for by the board. The result of the examination is required to be published in all the advertisements of the horse.

Many horsemen and farmers, with whom rearing a few colts is a side issue, do not appreciate fully what the state is doing for them. Since the operation of the stallion law more than 250 cases have come to the notice of the board in which a horse of unknown breeding had been, or was about to be sold as a pure-bred to an unsuspecting purchaser at a fancy price. When the secretary of the board told the purchaser what he had done or was about to do, the sale was not made, and the dealer returned any money paid him, to avoid prosecution. The law should be strictly enforced. H. M. Z.

THE ROAD LAW.

To fine or imprison the county boards for ignoring the law probably would not build any good roads this year and, as no country road fund from taxes can be available for a year, about all that can be done now is to classify the roads and anticipate next year's levy, as was done, this year, in Ottawa county. The county board classified the roads early and, in order to do the construction work before the taxes were collected, the farmers and business men, through the Minneapolis Commercial Club, proposed to the county board that the club would pay the interest on the money necessary to do this work until the taxes were collected. A Minneapolis bank agreed to lend the money at 4 per cent, and the county board accepted the proposition. Ottawa county now has most of its county roads in good condition.

The building and maintaining of public highways is not a local problem. They are the most democratic public institutions we have. They benefit a larger number of people than any other. The township, county and state should all bear a part of this ex-

has much to commend it over the old township system. The classification and division of the cost of the construction and maintenance of public highways provided in the new law gives the most equitable distribution of the expense we have ever had.

The Sigma Tau Arrives.

A chapter of the Sigma Tau fraternity was installed at the Kansas State Agricultural College, Friday, May 17. This is an honorary engineers' fraternity. A high standard of scholarship is one of the principal requisites of membership. The officers of the Kansas State Agricultural College chapter are: Carl Ipsen, president; W. E. Stanley, vice-president; W. G. Ward, recording secretary; H. H. Fenton, corresponding secretary; W. A. Buck, treasurer; R. R. Kimmel, conductor. The membership consists of two architects, seven electrical engineers, five mechanical engineers, four civil engineers, and five honorary members who compose the engineering faculty of the college—Dean McCormick, and Professors Eyer, Walters, Potter, and Conrad. The local chapter was installed by L. W. Chase, professor of agricultural engineering at the Nebraska University, and two civil engineering students of the same school, Carl Rober and G. K. Leonard. After the installation the new chapter of Sigma Taus entertained these men at a dinner at the Gillette hotel.

Aluminum Common, Now.

Aluminum, comparatively rare a few years ago, and too expensive to have any particular economic value, has come into wide use in a great number of industries. The consumption in the United States in 1911, according to the United States Geological Survey, was 46,125,000 pounds, the price in New York ranging from 18½ to 22 cents a pound. The Survey has just published a report by W. C. Phalen on "Bauxite and Aluminum," an advance chapter from "Mineral Resources of the United States" for 1911, which gives a comprehensive review of the industry for the year.

The man who despises little things seldom gets rich.

A VOICE FROM THE FARM.

James Whitcomb Riley.

It is my dream to have you here with me,
Out of the heated city's dust and din—
Here where the colts have room to gambolin,
And kine to graze, in clover to the knee.
I want to see your wan face happily
Lit with the wholesome smiles that have not
been
In use since the old games you used to win
When we pitched horseshoes: And I want
to be
At utter loaf with you in this dim land
Of grove and meadow, while the crickets
make
Our own talk tedious, and the bat wields
His bulky flight, as we cease converse and
In the dusk like velvet, smoothly, take
Our way toward home across the dewy fields.

SUNFLOWERS.

Gossips have no use for those who refuse to furnish material for them.

Thousands of persons "write for the magazines and papers." But precious few break in.

The Summerfield *Sun*, in name and contents, is our idea of a hot, country paper. May it never set.

We are a bit surprised that no yap has yet written a song entitled, "My Sweet Chihuahua Maid."

"Cyclones here," screamed the Larned *Chronoscope*, recently. The idea! If you want the truth about this ask Secretary Coburn.

Incidentally, it may be pertinent to observe in passing, Ty Cobb is the only ball player ever counted out on one strike.

A man was killed near Hartford, Kan., recently, while dragging the roads. Presumably this will end the road work in that district.

"We are here to stay," says the editor of a small paper, taking the public into his confidence, "send in the news." Why not hustle out and get it?

Some of the country papers still are telling Tom Masson's jokes—the jokes he told at the Lawrence meeting. And the statute of limitations runs against all of them.

"A good many nice fish have been caught out of the river," says the Cedar Point correspondent of the *Florance Bulletin*. Serves them right for getting out of the river.

The only difference between the Women's Press Association and the State Editorial Association is this: To join the men's organization you must be a newspaper man.

The publicity agent who sends out single space matter, thus abrogating the inalienable right of the editor to edit, is a mighty poor promoter. He will look in vain for his clippings.

A real estate firm in Kansas City offers \$50 for a name for its new addition to the city. Buy a lot and you'll have no trouble to think of names after you've met the third or fourth note.

The May day "Republican Convention" on the campus showed that the young men of Kansas have a proper understanding of the possibilities of T. R. when he gets started. No one else had a show.

A student from a school of journalism was discharged by an editor because he—the new reporter—had written a lie. As it happened in Kansas City it proved only one thing: He was on the wrong paper.

With all the speed possible in a weekly, institutional paper we hasten to sympathize with the Wiley baby. This unhappy infant, the chemist declares, is to be reared on pure-food principles, hygiene, and all that sort of rot.

It is interesting, too, to note the changed ideas and ideals of *The Star*, in its make-up, occasionally. For instance, it gave two columns on the front page, recently, to the suspension of Ty Cobb, a ball player. Mrs. Brokaw's divorce suit was pushed back to the second page.

The *Tiller and Toiler* certainly did have a corking good story of the big storm that descended upon Larned early in May. Eight columns, it had, of rattling good stuff. In contrast to this we remember a paper in a small town, near Hutchinson, which gave two sticks and a one-line head to a \$50,000 fire, the largest news item in its career.

JOB WAIT FOR THESE.

TWENTY-ONE SENIORS ALREADY HAVE ACCEPTED OFFERS TO TEACH.

College Unable to Supply Demand for Teachers of Agriculture—Big Demand, Too, for Domestic Science Instructors—Saving the Best for Kansas.

Many teachers in domestic science and agriculture for Kansas and neighboring states will be furnished this year by the Kansas Agricultural College. Twenty-one seniors already have accepted positions as teachers, and many applications have not been filled.

"I have more applications for teachers of agriculture than I can possibly fill," says E. L. Holton, professor of rural education. Professor Holton conducts a teachers' employment bureau for graduates. "A \$2100 position is yet to be filled. I have had many applications from other states for domestic science teachers, but have been putting them off because I wanted to keep our best young women for Kansas. The positions in other states will be filled later.

"Nine young women have accepted positions to teach domestic science and eleven men to teach agriculture and manual training." The domestic science teachers:

Miss Bessie Moorman, Ellinwood, Kan.

Miss Margaret Barrows, Atchison, Kan.

Miss Mina Ogilvie, Moran, Kan.

Miss Mildred Inskeep, Olathe, Kan.

Miss Ellen Hall, Goodland, Kan.

Miss Martha Elliott, Fairbury, Neb.

Miss Emma Kammeyer, Sterling, Kan.

Miss Selma Nelson, Condo, N. D.

Miss Alice Roberts, Oskaloosa, Kan.

The teachers of agriculture:

Paul M. Hewitt, Sandstone, Minn.

Charles Lyness, Annandale, Minn.

W. G. Speer, Clay Center, Kan.

E. H. Martin, Blue Earth, Minn.

John H. Hewitt, Brainbridge, Minn.

Those who will teach agriculture and manual training:

Leon Ambler, Cottonwood Falls, Kan.

Luther Coblenz, McPherson, Kan.

Lawrence T. Perrill, Waitsburg, Wash.

Teachers of agriculture and science:

Merle Sims, Anthony, Kan.

Luther Willoughby, Winfield, Kan.

Teacher of manual training, R. C. Perrill, Goodwell, Okla.

ALUMNI NOTES.

V. V. Detwiler, '11, who is teaching at Chapman, visited the college Tuesday.

Cliff Stratton, '11, came up from Topeka, Saturday, to attend the May Festival.

F. D. McClure, '11, who is teaching agriculture at Nickerson, this year, came in Monday to visit friends and to see the track meet.

O. H. Gish, a graduate of the '08 class in general science, will receive a Master of Arts degree from Nebraska University this spring.

B. B. Baird, class of '11, who has been farming near Riley, Kan., since graduation, has been elected to teach agriculture in the state high school at New London, Minn.

Walter King, '09, has returned to the college to work for a master's degree in engineering. He has been in charge of the manual training work at the state reformatory, Hutchinson.

L. H. Beall, assistant professor of English literature, delivered the eighth grade and high school commencement address at Gem, Kan., last week. He also gave the county commencement address at Colby, Kan.

The Kansas State Agricultural College is proud of the work its alumni are doing. Of course, some of them are doing more than others; at least, the work is more noticeable. Two of the graduates, W. T. Swingle, '90, and David Fairchild, '88, have very important positions with the United States Department of Agri-

culture. Mr. Swingle is chief of the office of crop physiology and breeding. He is working on citrus trees, having, at the present time, a hybrid, the citrange, bearing fruit, and other hybrids developing. Mr. Swingle also has general supervision of a fig experiment in California and a date farm in Arizona. Special men have been assigned to these fruits, but Mr. Swingle superintends the work. Mr. Swingle visited France, Spain, Algiers and Morocco, last winter, to study figs, dates, and other fruits. Samples were obtained and will be used in developing these plants in America.

Mr. Fairchild is head of the office of foreign seed and plant introduction, and has charge of all new plants and seeds brought to this country. He has made several trips to Europe, Asia, and Africa, to find new species, and has collected many valuable specimens. In addition to this, Mr. Fairchild has men in all parts of the world sending specimens to him. Some of these men are missionaries, American consuls, breeders, or agricultural officers. Altogether, more than 31,000 species have been brought over, some of them duplicates. Some of these species are being tested to see if they are adapted, naturally, to some part

CAN YOU SHOE A HORSE?

IT'S A MIGHTY SERIOUS BUSINESS—FOR THE HORSE—IF YOU ERR.

J. H. Hollar, College Blacksmith, Gives a Student Reporter a Few Pointers that May Prove Valuable to Every Farmer.

You may be handy with tools, but if you are not better than the average farmer don't attempt to shoe your own horses. This is the advice of a blacksmith at the Kansas Agricultural College. This blacksmith, J. H. Hollar, says the tough, horny hoof of a horse is as delicate and sensitive as the nails on your own hand, if they are not treated right. When properly cared for they can strike sparks out of flint stones; but pare the outer covering too closely and the horse is painfully lame. Paring the hoof so that it will be neat, not so long that it will split, too high on the heel or too low—these are the points you must understand.

"It would be almost impossible," Mr. Hollar says, "for a farmer with little or no technical knowledge of blacksmithing, and without studying the anatomy of the hoof, to shoe his own horses properly. What would be gained in saving the blacksmith's bill

a book is read that gives information which might be valuable to the student later, he should make out a card giving the name of the book, name of author, and name of publishers. If an article is in a regular issue of a standard magazine, it is not necessary to accumulate a stack of clippings; take the name of the magazine, date of that number, and volume. By doing this you have, in condensed form, the key to all of the valuable reading done during your four or five years at college.

LIGHTNING RODS ARE NEEDED.

Nothing to the Story About Not Striking Twice—Be Careful.

All buildings in the open country need lightning rod protection. In town, wires dissipate the charges over a wide area, so special lightning protection is not so necessary. Lightning usually strikes the highest points, so that houses standing alone are targets for many bolts, says J. O. Hamilton, professor of physics at the Kansas Agricultural College.

The common idea that lightning will not strike twice in the same place is erroneous. The fact that lightning has struck a certain place indicates that the location is favorable for lightning discharges, and a bolt is likely to fall in the same place again. Bolts are caused by the attraction of two unlike charges of electricity for each other. Lightning usually follows the line of least resistance. Metal rods will carry off the charge into the ground and thus reduce the danger from lightning to buildings on which rods are placed. The function of the lightning rod is, first, to prevent the bolt from falling, and, second, to carry the bolt to the ground if the discharge should take place.

The highest points on buildings should be protected by higher points of bright metal—copper is good. The rods may be nailed directly to the ridges of the houses. The essential thing is that they must run into the ground until they strike a good conductor. Moist soil conducts electricity well. If the ground around the wires begins to become dry, it should be wet to a considerable depth.

HIS IDLE TIME ALL BUSY.

Another Example of the Value of Having More Than One Line.

From The Drovers Telegram.

Selling alfalfa hay and seed to the amount of \$93 to the acre, is perhaps a record seldom equaled in any part of the country. But that record was actually made last season on the farm of Dave Bryson, near Adams, Neb. Mr. Bryson, who was on the yards today with a shipment of corn-fed steers, made this statement, and it was verified by his neighbor, E. E. Young, of that place, who was also on the market. Last season Mr. Bryson raised over 350 tons of alfalfa, besides about 80 bushels of seed. He fed a large number of cattle, and also sold to his neighbors a good deal of alfalfa.

Mr. Bryson owns 680 acres of choice farming land. He went into Gage county poor, about 16 years ago. He is a hustler and a progressive farmer and cattle feeder.

MAKING BEDROOM CURTAINS.

Simple Directions in Selecting the Material—How to Measure It.

In making curtains for the bedroom windows you can economize in material by selecting swiss or scrim the width of the window. Now measure off the length you desire the curtains and cut the material from corner to corner on the bias. In other words, cut from the lower left-hand corner to the upper right-hand corner.

To this bias edge apply a ruffle either of the material or of coarse lace. Finish the joining seam neatly by stitching a strip of featherstitched braid or a narrow bias fold over the ruffle and seam edge.

Now finish the broad, straight edge at the top with a hem and narrow casing, through which is run a tape the length of the width of the window. The curtains are then shirred over the tape or small brass rods and attached to the windows.—New York Press.

TOO MUCH OF ONE THING.

FAILURE ON THIS FARM CAUSED BY LACK OF LIVE STOCK.

The Experience of a Farmer who Grew only Grain, and the Comment of Prof. Jardine—Cows, Hogs, Chickens.

What is likely to happen to the western Kansas farmer who confines himself strictly to grain production is shown by a letter printed in a recent farm paper. This letter, telling of the particularly discouraging experiences of a grain farmer, was shown to W. M. Jardine, head of the farm crops department of the Kansas Agricultural College. Professor Jardine explained why the results were not successful and told how more diversified farming would have made this 160-acre farm profitable. This is the farmer's letter:

Mr. Editor.—When some city editor writes up the farmer he counts the income but fails to see the expense side. When a man undertakes to farm 160 acres in Kansas he needs a header worth \$175, a gang plow \$65, harrow \$18, drill \$65, harness \$100, horses \$900, header boxes \$35, wagon \$85, mower \$45, rake \$30, repairs in 10 years \$100, all of which totals up \$1628. At the end of 10 years all this equipment is ready for the junk pile. At harvest time his expenses will be \$100 for help, \$100 for threshing, and \$25 for board. His seed wheat will cost him \$100, corn \$225, which in 10 years will amount to \$5500. Add to this the \$1628 and you will have \$7128.

Now 100 acres is all he can farm to wheat, the rest being needed for pasture and feed. Secretary Coburn says we average 14 bushels of wheat per acre, which would make 1400 bushels of wheat per year. The average price is about 80 cents per bushel. This would make an average crop worth \$1120. In 10 years this would amount to \$11,200. Deducting the expenses from this total, there would be left \$4072, or \$407 for each year to pay for the farmer's year's work and keep his family, also to pay interest on the money invested. I have not computed the taxes for fear I would get him in the hole.

Dorrance, Kan. WM. F. BOLAN.

And this is Professor Jardine's comment: Any man who farms his 160-acre farm as indicated by this gentleman would be very fortunate indeed to come out as well as his figures indicate. We have a great variety of wheat farms in Kansas.

WHY NOT MORE STOCK?

It seems to me that Mr. Bolan in devoting sixty acres of his 160-acre farm to pasture to feed four horses, the only animals accounted for on his place, must either have mighty poor pasture for Russell county or else he must be carrying some dairy cows or other animals. If he is doing this he has failed to take account of them in his statement. Mr. Bolan's figures represent a fair average income for farms of 160 acres. A man who tills a 160-acre farm and does not maintain some poultry, some hogs, a few dairy cows, and rear a good colt or two each year, can never expect to get ahead much under any system he might adopt in cropping his land as far west as Russell county.

COULD DOUBLE WHEAT YIELD.

There is absolutely no reason why Mr. Bolan could not grow as much wheat on his farm on half the acreage if he would adopt a proper rotation of crops and work his land at the right time. If he would grow wheat and kafir on his place and summer fallow the land that he plants to wheat, he would not only produce practically as much wheat from one-third the area, but he would also produce an abundance of good grain and forage for feed from his kafir. And as a result of dividing his land into three fields to be handled at different times, he could better distribute his work, and thus do every operation at exactly the right time—which, in turn, would result in a reduction in cost of operating.

Cause and Effect.

The wheat is looking fine down this way.

Clem Abercrombie has purchased a new automobile.

Brandon Tate is building a new house for his mother on her farm.—Saltville items in the Beloit Call.

It sometimes happens that she who hesitates would be lost if she didn't.

For Cleaner Dairying.

1. Develop the habit of looking for dirt.
2. By keeping dirt out of cream, you keep out the bacteria and retard souring.
3. Bacteria are conveyed from place to place on dirt and dust—they cannot fly.
4. The standard of purity for the cream you sell should be as high as that for the cream you use at home.
5. The dairyman who sells cream which has passed through a dirty separator commits an insidious and criminal act against the nation.

—The Kansas State Agricultural College.

of the United States; others to learn what effect they will have on other plants, or what effect other plants will have on them. One of the most valuable plants imported is the puckerless persimmon, which Mr. Fairchild is developing from a species from China.

THE HOUSE MET HERE.

Extemporaneous Debating is Encouraged in the Forum's Weekly Meetings.

The United States House of Representatives met last week in Manhattan. That is, the Forum, which is an organization for boosting debate and oratory at the Kansas Agricultural College, in its meeting last week temporarily organized itself into the "House of Representatives."

The purpose of this temporary organization is to give its members an opportunity for extemporaneous debate and at the same time give them a working knowledge of the system of rules followed in the lower house of congress.

A speaker and a committee on rules were elected at the last meeting and various other committees were appointed. A bill was also presented to amend the constitution of the United States to permit women suffrage. This bill will come up for discussion at the next meeting, and every member is expected to be prepared to argue the question, one way or the other.

The membership of this organization is limited to students who have participated in intersociety debating or oratorical contests. There are at present about 50 members in the Forum. Eight literary societies are represented.

Good care consists in doing everything from milking and caring for the cows to marketing the butter or cream as if your whole life success depended upon it.

would be lost many times over in ruining the hoof of one horse."

There are many things to take into consideration when the shoer fits a horse. One horse may have a tendency to walk too much on the heel, especially if he has been improperly shod, and this strains the tendons in the back of the leg. He may have bruises which will require special treatment. In any event if he is worth shoeing he is worthy of being shod by one who knows his business.

INDEX WHAT YOU READ.

A. B. Smith, Librarian, Told Journalism Students How to Use Libraries.

Every student should gather a reference library during his college course. A. B. Smith, the college librarian, believes this is the way to take the best information away with one. In a talk before the advanced class in journalism, recently, he emphasized the importance of knowing how to use a library when one was available.

Men have passed the stage of learning, Mr. Smith said, where all of human knowledge could be set forth in one treatise or paper, as in the time of Aristotle, and there are so many books on every imaginable subject printed every day that it is absolutely impossible for anyone to get an appreciable amount of the knowledge so set forth, in his head. The only logical way to do is to learn to find such information when needed, and this can be done by learning the use of the public libraries.

As more directly applying to students, Mr. Smith suggested keeping a system of cards which would show the source of all valuable information read during the years at college. Most magazine articles should be clipped and filed in an indexed scrap book, while the books read should be merely recorded. For instance, when

A SAVE STEPS KITCHEN.

ONE OF THE GIRLS CONTRIBUTES A FEW VALUABLE SUGGESTIONS.

Nine by Twelve Feet, the Writer Says, is Large Enough Space for the Average Family—Her Plan Described.

Small kitchens save steps. If house work is to be done on an efficiency basis, no time or strength can be wasted on unnecessary exertion. The kitchen no longer is expected to be a dining and living room. It is more of a laboratory where work is to be done, and all its appointments should be planned with a view toward doing that work in the easiest possible way.

For the average family, a kitchen nine by twelve feet is large enough. The best location is a southwest corner. There is, nearly always, a fresh breeze from the south, and the sun does not shine directly on the kitchen when one is busy with the morning work.

As every woman has her own way of doing her work, it is impossible to plan a kitchen that would meet every one's requirements. Every housekeeper must, so to speak, build up her own kitchen about her.

A BUILT-IN CUPBOARD.

The feature of a nine by twelve kitchen should be a built-in cupboard and closet along the east wall. In the corner cupboard, conveniently near the stove, should be the kitchen utensils. The china closet next to the cupboard should open into the dining room and the kitchen. It should have glass doors on the dining room side, while the back should be one large door, finished to match the wood work of the dining room, and opening into the kitchen. Just beneath this door have a folding table fastened to the wall, which may be let down against the wall when not in use. Let the remaining space be taken up with a small closet in which are kept brooms, dustpans, ironing board, and irons.

Put the stove against the north wall out of direct drafts, but still where the air circulation is sufficient to carry off odors. Along the west wall have the sink with its drain board. Over the sink insert a large, sunny window. Next to the sink place a combination kitchen cabinet and work table, which may be either a built-in arrangement or the regulation ready-made cabinet.

A window and a door on the south should open on a screened porch. Near the outer door arrange a swinging door to open into a small pantry from which another swinging door should lead to the dining room. The refrigerator may be built in against the outer wall of this pantry, with a small door for putting in ice from the porch. In the pantry between the two doors, have a broad shelf on which to put dishes or different courses when ready for the table. Above this should be other shelves and, beneath, drawers for silverware, table linen, and dish-towels. There should be similar shelves and drawers opposite.

A HIGH STOOL, TOO.

The additional furniture needed for the kitchen consists of a high stool on which one can sit while working at the table and a low rocking chair. If there is a fireless cooker, it may be kept under the sink. If you do not have a gas range, and use a small gasoline stove in summer in place of the coal range, you may save room by putting the gasoline stove on top of the range. Of course, there must be no fire in the range, and the gasoline stove must be low enough to be convenient. It will have to be stored outside of the kitchen when not needed.

While some housekeepers object to having no door communicating directly between dining room and kitchen, many others prefer the arrangement, rightly believing it an aid towards keeping cooking odors out of the remainder of the house. True, the absence of the communicating door entails some mileage between kitchen and dining room, but three-fourths of this may be cut off by using a cart to convey the entire meal to the dining room and, afterward, to carry all the

dishes to the kitchen. These carts are inexpensive. They may be bought in furniture stores.

EXTENSION WORKERS AT WORK.

A Few Items Showing the Versatility of Mr. Miller's Staff.

Miss Frances L. Brown and Miss Adah Lewis, of the extension department of the college, conducted a movable cooking school at Wakefield last week. Mrs. Mary Simmons and Miss Irene McCreary had the same kind of a school at Bendena. Miss Ella Nash and Miss Nellie Thompson had charge of the same kind of work at Garnett.

G. S. Hine was supervising the building of a solid-wall cement silo near Smith Center. G. C. Wheeler was overseeing the construction of a similar silo in Comanche county. P. E. Crabtree visited ten farms in Coffey county, advising the farmers about farm management, crop methods, and other farm problems. This week he is working in Allen county, it being his third trip to that county.

The state highway engineer, W. S. Gearhart, has been working in Smith, Harvey, Russell, Osage, Riley, Atchison, Johnson, Meade, Morris, Cloud, Dickinson, Ness, Ford, Wabaunsee, Hodgeman, and Pottawatomie counties. Mr. Gearhart went to Falun, Kan., May 22, to talk on roads and bridges. H. B. Walker, the drainage engineer, went to Ozawie yesterday. From there he will go to Valley Falls to superintend some macadam road work.

A. R. Losh, assistant in highway engineering, inspected a road in Brown county, made bridge inspections in Atchison and Johnson counties, and inspected the route of the proposed rock road in Johnson county.

Most of the extension workers are in the office this week preparing lectures for the dairy special trip next week.

NOTHING DARK OUT THERE.

Here's an "All White" Farm in Washington, in the Hop Country.

Eugene Jacquemin, a lover of nature and live stock, has acquired his heart's desire—a farm on which are pure white animals and fowls, all housed in spotless shelters, and permitted to roam within bounds of snowy fences. Jacquemin says his novel farm has been coveted by many wealthy men, and offers of large amounts have been refused. White horses do all the farm work and are the drivers and saddle animals. White ponies play with the children. White cows furnish butter and milk. There are white hogs, sheep, and goats. The pigeons, chickens, ducks, geese, turkeys and guinea fowls are all white. The guinea fowls were imported from Africa. A novelty is a pair of peacocks, pure white. About the yard three spitz dogs play and white Persian cats lounge on the porches. In the orchard the eccentric farmer has an albino elk, three white deer, a mountain sheep, and a polar bear cub. There are in aviaries a pure white magpie, white blackbirds, pheasants, wild swans, cranes, and storks.—*Puyallup, Wash., letter to the St. Paul Dispatch.*

TURKEYS NEED TO ROAM.

A Pen in Town Not the Place to Rear Christmas Meat.

For those persons in town who are thinking of raising a turkey or two in their back yards there is trouble in store. The back yard or pen is not the place for a bird which refuses to be domesticated, W. A. Lippincott, head of the poultry department at the Kansas Agricultural College, says.

The farm is the place to raise turkeys. They must have a good range. During the first few months, it is better to give them no grain, but let them forage and eat bugs. If small turkeys are cared for in this way, the fatality will be much less.

Professor Lippincott suggests that you let some farmer take your young turkeys and rear them. You might arrange to pay a little rent to a farmer for allowing your birds to roam in his pastures. Then, along about Thanksgiving, all you have to do is to go out and harvest your turkey.

FLOWER SEED FOR FEED.

TAME SUNFLOWERS CAN BE GROWN PROFITABLY FOR LIVE STOCK.

They Will Grow on Corn Land and Produce 400 to 2000 Pounds to the Acre—A Beautiful Crop in the Field.

Tame sunflower seed can be grown and fed profitably in Kansas. The plant will grow on any land that will produce corn, and it is planted and cultivated in much the same manner. The price for seed averages about two cents a pound and the yield ranges from 400 to 2000 pounds to the acre.

The best way to grow it is to plant it in rows, from six to twelve pounds to the acre, and cultivate shallow. The imported varieties make the best yield under cultivation. Of these, the Black Giant and Mammoth Russian are the best. It is best to cut off all but three or four of the heads after they appear in order to give those remaining the best chance to develop.

HARVEST BEFORE RIPE.

The seed should be harvested before it is fully ripe to prevent it from shattering and damage by birds. Care should be exercised in caring for the seed. It should not be stored away in bulk until it is thoroughly dried, to prevent heating.

The seed usually is pounded out with a flail, but sometimes a disc arrangement is used. A disk is driven full of nails and revolved rapidly. The heads are held down among the nails and the seed is beaten out. This is rather a crude method and there is need for a better and cheaper means of removing the seed, which will lessen the cost of producing and increase the profits.

GRIND IT FOR FEED.

The seed, when ground and mixed with other grain, is considered fattening and palatable. In Russia the stem is ground up and fed to stock with good results. Oil cake, a by-product in the manufacture of sunflower oil, is very rich in protein and makes good food for stock. Sunflower seed also can be fed profitably to chickens during the moulting season, says W. A. Lippincott, professor of poultry husbandry at the Kansas Agricultural College. It seems to help the birds come into their feathers, he says, and is considered very valuable for that purpose. It is best to feed it in a mixture with some other grain.

WATCH THE CHICKS FOR LICE.

Lime and Carbolic Acid Make a Good Disinfectant for the House.

This is the time of year when lice do the most damage in the poultry yard. The young chickens should be examined every week for head lice or for lice on the body.

A cheap disinfectant for the poultry house is a whitewash made by slacking fresh lime to the consistency of cream and adding a gill of crude carbolic acid to every pailful of the whitewash. This whitewash will help keep out the chicken mites. The best treatment for lice on birds that have feathered out is to give them a good dust bath.

A good dusting with Persian insect powder is usually sufficient for the body lice in little chicks. W. A. Lippincott, professor of poultry husbandry at the Kansas Agricultural College, recommends that. Greasing the chicken's head with carbolic salve is a very good treatment for head lice.

Ionians Won May Day Prize.

The Ionian society's butterfly drill was awarded the prize as the best stunt on the May Festival program, given on the college campus last Saturday. The milkmaids' dance given by the Eurodelphian society won second place. Arthur Capper, president of the board of regents, F. D. Coburn, secretary of the state board of agriculture, and Mrs. C. B. Hoffman, of the Kansas Equal Suffrage Association, were the judges.

No land is so rich that its owner can afford to waste the manure that is made by his farm stock.

A Summer School

AT THE

Agricultural College For the Teachers

Summer Term begins June 13 and ends July 25

Agriculture, Manual Training, Home Economics, and Industrial Journalism.

The legislature passed a law requiring all grade and rural school-teachers to pass an examination in elementary agriculture. This law became effective June 1, 1911.

If you expect to teach school it will pay you to invest your spare time, and the small amount necessary to equip yourself properly, in the vocational subjects required by the law.

The Courses Offered

Domestic Science.—Food preparation. Class work 5 hours, laboratory 10 hours per week. Attention is given to method of presentation of domestic science in grade and high schools; to the application of general principles of teaching to the teaching of domestic science; to the planning of courses and equipment of laboratories.

Domestic Art.—Hand and Machine Sewing. Class work 1 hour, laboratory 14 hours per week.

The primary steps of hand-sewing are carefully observed. This knowledge is then applied in the making of a plain or fancy sewing bag, a hemstitched towel, scarf or lunch cloth, an apron, etc. The hand work is followed by practice in taking measurements, and instruction is given in drafting patterns, and making garments by machine. Lectures are given on the history and process of manufacture of the materials used in sewing.

Manual Training.—Woodwork for the grammar grades; woodwork for the high schools; forging; molding and foundry practice; machine-shop work; manual training for primary grades.

Drawing.—Freehand, object, color and design, and mechanical drawing.

Elementary Agriculture.—This course is planned primarily for teachers in the rural and village schools. The subject-matter is selected and the work presented with this end in view. The course covers a year's work in elementary agriculture for the rural and village schools. All laboratory work will be presented in such a way that it can be adapted to the needs of the individual teachers. This course is especially adapted to prepare the teachers to meet the requirements of an act of the last legislature, which requires teachers to take an examination in the elements of agriculture. It includes a study of farm crops, live stock, poultry, farm forestry, soils, agricultural botany, and plant propagation.

General Science.—This course covers economic entomology and zoology, chemistry, elementary physics, electricity and light, vocational education, rural sociology, methods of teaching.

Industrial Journalism.—Ten lectures, especially prepared for teachers, describing the first essentials of newspaper writing: How to prepare copy; news values in town and city; how to prepare a magazine story; newspaper organization; a brief history of journalism, news, agricultural, trade, scientific, educational, commercial, and religious; a few points on libel; high-school journalism. The series is intended only to help teachers who may desire to become correspondents or to add to their incomes by magazine writing.

Other Courses Offered:

English, history and civics; physical education, which treats of this work in public schools, and work in the playgrounds, competitive sports and practical work.

Vocational Education.—The development and significance of vocational education, and a careful study of trade and continuation schools in Germany and other countries, and in this country, with a study of pedagogy as applied to the teaching of vocational subjects in the high schools and in the seventh and eighth grades.

Vocational Guidance.—A study of the need of vocational guidance for pupils in the seventh and eighth grades and the high schools, etc.

Educational Excursions

The college has planned excursions under the leadership of experts to the experimental fields, the stock feeding yards, dairy and poultry barns, the gardens, orchards, the tree-planting plots, and the hog-cholera serum station.

Expenses

The only fee charged by the college will be the regular incidental fee of \$3.00, which the state law requires to be charged of all students who are citizens of Kansas. Nonresident students will be charged a fee of \$20.00 for the first term and \$10.00 for each term thereafter. Board and room may be had for from \$4.00 to \$5.00 a week.

For further information address

H. J. Waters, President

Box E, Manhattan, Kansas.

THE KANSAS INDUSTRIALIST

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, June 1, 1912

Number 32

CURED HAY WON'T BURN.

IT'S CARELESSNESS THAT CAUSES SPONTANEOUS COMBUSTION.

Cut Your Alfalfa at the Right Time, Let it Cure Thoroughly, and Stack in a Dry Place; Then You'll Have Green Hay.

The loss caused by the heating and burning of alfalfa hay in the stack is usually due to carelessness. Proper precautions were not taken in curing the hay. Sometimes it is due to weather conditions, but usually it is caused by too much water in the stem of the plant when stacked.

A simple comparison well illustrates this, says A. H. Leidigh, assistant professor of crops at the Kansas Agricultural College. If a tree is cut down on a cool or cloudy day, the leaves remain green and fresh for some time, and are continually taking water from the trunk and passing it off into the atmosphere. If the weather remains reasonably cool for a few days, the water will all be taken out of the tree.

THE TREE, FOR EXAMPLE.

But if the tree is cut down on a sultry, hot day, the leaves immediately wilt, dry up, and fall off. This leaves all the water in the trunk and no means for getting it out. It is the same with alfalfa. If the weather is not too hot the leaves will remain on the stem and carry off the water, but if it is hot and sultry, watch for trouble in the stack. Several alfalfa stacks near Manhattan have burned down, and in every case improper curing of the hay before stacking seemed to be the cause.

When it is impossible to wring water out of hay, says Professor Leidigh, it is dry enough to stack. The best way to cure hay is to rake it into small windrows before the leaves are dry enough to fall off. There let it dry out slowly. Of course, weather conditions will not always permit this and are a frequent source of trouble. If the ground is damp, or if the atmosphere is saturated with moisture, the windrows must be turned over frequently to expose all the hay to the sun.

Hay often heats in the stack because it gets wet or absorbs moisture from the ground. This difficulty may be overcome by stacking on a foundation of poles or under sheds. In a stack of alfalfa 25 feet long, stacked in the ordinary way, not less than \$5 to \$10 worth of hay is spoiled on the top and bottom. The loss from a few stacks would pay for the cost of a shed.

WHEN TO CUT IT.

Just how much heating affects the feeding value of alfalfa hay is an unsettled question. Some argue that it lowers the feeding value but improves the taste. Cattle usually eat brown and black alfalfa with more relish than the bright green hay.

The proper time to cut the hay, which may well be discussed here, is when the crop is one-tenth in bloom. This is a good plan to follow under ordinary conditions, but when it is very succulent and has made a rank growth it is better to let it stand a few days longer before cutting. The surplus water in the stem will thus have a chance to pass out. Another excellent guide is to watch the new buds or shoots at the base of the plants. When these begin to grow the crop is ready to cut for hay, even if it has not begun to bloom. The starting of the new buds indicates that the plant will grow immediately after it is cut.

ANOTHER POVERTY NOTE.

Kansas Heifers Bring Only \$8.15, and the Man Had 144 Head.

W. J. Railsback and R. A. Railsback, farmers and cattle feeders of

Langdon, Kan., marketed to-day 144 head of choice Hereford heifers, bought on these yards late last fall, that brought \$8.15. This is the highest price paid here this year for straight heifers. They were fattened on corn, cottonseed meal and silage and weighed 752 pounds.

Messrs. Railsback topped the steer market in January with four carloads that sold at \$7.90, the first steers to bring that price this year.—*The Drovers Telegram.*

Incidentally the two young men referred to in the foregoing are agricultural college students. They take turns, year about, in attending, and intend to graduate, eventually, in this way. Evidently they are learning the right kind of animal husbandry.

TO CONTROL HESSIAN FLY.

Wheat Sown at the Right Time Will Not Be Damaged.

The Hessian fly will not bother your wheat if it is sown at the right time. Experiments carried on by Dr. T. J. Headlee, professor of entomology and zoölogy at the Kansas Agricultural College, show that if wheat is sown after a certain date, this date varying for different localities, the Hessian fly will do no damage.

Doctor Headlee conducted his experiments at various points over the state. He first determined the earliest date at each of these points when wheat would not be attacked by the fly. Then, by using what is known as "Hopkin's Law of Latitude and Altitude," he was able to determine what would be a safe date for sowing in any part of the state if the latitude and altitude of the place were known.

Similar experiments have been carried on in Ohio and in West Virginia. In these experiments it was found that the fall brood of flies disappeared one day earlier for every one-fourth of a degree north and one day later for every one-fourth of a degree south of a given point. These experiments also showed that wherever altitude was sufficiently variable to bring about difference in climate, there existed a ratio between the disappearance of the fall brood and the height above the sea. A difference of 100 feet in altitude made a difference of one day in the time of disappearance of the fall brood—one day earlier if 100 feet higher and one day later if 100 feet lower than a given point.

In the Kansas experiments two series of stations were used. The individual stations of the eastern series are located from north to south at Marysville, Manhattan, Marion, Sedgwick, Wellington, and Caldwell. The stations in the western series are located at Norton, Smith Center, Wilson, Great Bend, Pratt, and Sawyer. By knowing the safe date of seeding for one of these stations, Doctor Headlee is able to estimate the time of safe seeding for any other station. For example, taking the experimentally-determined safe sowing date of Marysville, with a latitude of 39 degrees and 49 minutes and an altitude of 1153 feet, as October 2, the theoretical safe sowing date for Caldwell, with a latitude of 37 degrees and four minutes and an altitude of 1107 feet, is October 13, while the actual date determined by the average of two years of experimental sowing is October 14. The theoretical date, however, misses the experimentally-determined date farther if the station whose date is to be determined is east or west of the initial station. This variation probably is caused by the difference in the annual precipitation of the eastern and the western sections of the state.

One advantage of succulent feed is the fact that it not only provides the cow with more moisture, but at the same time is more appetizing.

TOO MUCH WHEAT LOST.

IMPROPER CUTTING AND SHOCKING RESULTS IN UNNECESSARY WASTE.

Intelligent Helpers Can Save Their Wages in Wheat by Being Careful—Grain Fed into the Separator Heads First is Better Threshed.

A great deal of wheat is wasted, especially in the soft-wheat region in eastern Kansas, by improper methods of caring for the grain after it is cut. Careless hands easily may waste more than their wages during harvest.

The "binder man" should be careful in driving, so that he may not "cut and cover," or leave strips of uncut wheat as he drives across the field. Many carloads of wheat are lost in Kansas every year by such poor driving. Be careful when cutting the backswath, also. Many grain raisers think that the backswath is not worth saving, because of small heads, and they frequently do not go to the labor of cutting the wheat along the edges of the field. While it is true that the heads frequently are not so well developed as the heads farther out in the field, the backswath always should be cut.

CAP THE SHOCKS.

Wheat that is cut with a binder should be shocked in medium-size shocks, which always should be capped with two bundles. It pays to cap wheat shocks. Break the heads and butts of the cap bundles before they are placed on the shocks, and then place them at right angles to one another. Smooth and settle them firmly in place before you leave the shock. Pick up all the loose wheat near the shock, and if there is enough to make even a small-size bundle, bind it by hand. If there is not, put it in the shock between a couple of bundles. If any of the cap bundles are blown off the shocks, go over the field carefully and put them back.

When the wheat is cured and ready to stack, stack it. It never pays to wait on a threshing machine that "may be here the first of next week." There is not much labor saved by threshing from the shock, anyway, when the wasted time of the hands when the machine is stopped is considered, and it never pays to let the wheat stand in the shock after it is ready to stack. Too many things can happen to the machine.

HAVE INTELLIGENT HANDS.

When the machine does come, get some men that have some intelligence to pitch the grain into the feeder. If the grain is fed into the machine with the heads first, in a steady, uniform rate, the concaves of the machine can be tightened up so the wheat may be knocked out of the heads better. The grain can be separated from the straw much better, also, if the machine is carrying an even load all of the time. And, finally, have some wheat haulers that can get that grain to the bin without leaving a trail of grain behind them. Most haulers don't have that ability.

A BLOW TO CHEATING.

The Square Deal Club Will Report Dishonesty to College Authorities.

The "Square Dealers" at the Kansas Agricultural College have organized. This is not a political club, but an organization of 100 charter members, all men, who desire to promote honesty among the student body.

Members of the club will report, in writing, to a board consisting of five members, all cases of dishonesty, giving details. When sufficient evidence is gathered the student accused will be asked to appear before the club.

If an accused person denies the charges, the matter is referred to the organization. By a two-thirds vote the organization may present the evi-

dence to the college authorities. Cases of suspension will be made public.

Only male students are eligible for membership. To become a member, a candidate must receive votes of 95 per cent of the members, and must be passed upon by the executive board of the college.

The club is sanctioned by President Waters and members of the faculty. The organization does not expect to accomplish much the present school year, but as most of the members are undergraduates much good may be done in the future. The offices to be filled are: president, vice-president, secretary-treasurer, and a board of five members.

WHEN TO CUT CLOVER.

It Makes the Best Hay Before It Gets Old and Woody.

Cut the clover and timothy meadow this spring before the crop gets too mature. If the stalks get woody before they are cut, the hay will not have the value that it would have if the crop had been cut at the proper time. While the clover contains a maximum amount of nourishment when it is at full bloom, the hay is very hard to cure at that time, because of the very high per cent of water that the plants contain. Considering both the amount of moisture in the plants and the value of the hay, it is best to cut clover when one-third of the heads are brown.

Of course, you can't cut all of the crop when it is at that stage of maturity, if you have a large acreage. In that case, you should begin to mow the crop before one-third of the heads are brown. After you have cut the meadow don't let the hay remain in the swath too long before you rake it. If you do, the leaves will become too dry, while the stalk still contains a high per cent of water, and many of the leaves will be broken off when you rake the crop. Rake the clover before the leaves are dry and hard, and let the hay be cured mostly in the windrow and bunch or shock.

If you have a barn or hay shed in which to store the hay, and all Kansas farmers should have such buildings in this year of 1912, you can put the hay in the mow when it still contains considerable moisture, if you spread the hay out over the mow so there is not very much piled in one place. Thus, if a rain is coming up, you can get several loads of hay saved, even if it still is rather green. But of course the hay must not be piled up or it will spoil.

If you stack the hay, use power machinery, and stack the clover in big stacks. When the stacks are large there is not so high a proportion of the feed exposed on the sides and bottom, and therefore less will spoil. After the stack is built it should be topped out with coarse grass, which turns water readily. Clover takes water very easily, and if coarse grass is not put on the stack much of the top will spoil.

ARMY LIFE FOR THE CADETS.

College Corps of Four Companies Left on a Four-Day Hike, Yesterday.

The college cadet corps started on a four-day hike yesterday morning. Lieut. R. P. Harbold, commandant, marched the cadets to the rifle range of the Kansas National Guards, about seven miles northwest of Manhattan. All cadets were expected to march out there, with the privilege of coming back if they did not care to camp for a few days.

The hike will give the cadets a taste of real army life. Full equipment was taken. The time will be spent in practicing strategy, a few drills, and enjoying the outing. Rations cost every man one dollar. Hikes similar to this have been proposed before, but none has been carried out until the present trip.

HOW DOES A BEE WORK?

ITS IMPORTANCE IN APPLE AND ALFALFA GROWING BEING STUDIED.

Bugs on Apple Blossoms of Two Orchards Were Collected During Blooming Season—Test Will Show What Other Insects Are Most Useful.

To determine the effect of insects on fertilization, the entomology department of the Kansas Agricultural College has been conducting an experiment this spring. The fertilization of apple blossoms is the particular problem being studied. Many persons believe that insects do not have much to do with the yield of an apple orchard. Others think that insects, such as bees, have a great deal to do with the setting of the apples.

GATHERED THE BUGS.

To answer this question, two orchards were used. Both had plenty of blossoms. A collection was made every two hours, from the time the blossoms began to bloom until they dropped, of the species found on certain trees of each of three varieties of trees: Missouri Pippin, Ben Davis, and Winesap. These collections are now in the office of the entomology department and will be studied to find out the species of the visitors and the relative number of each species. This will give the relative frequency with which every species is found. It has been roughly estimated that the common honeybee constitutes between eighty and ninety per cent of all the insects found in the orchard.

One of the orchards is one and one-half miles from the nearest known hive of bees, the other has bees in it. This will give some idea of the effects of bees as fertilizers. But to determine more definitely the efficiency of the honeybee as a fertilizer, two medium-size apple trees were caged with screen wire. The conditions were the same except a hive of bees was placed in one cage, while there were no bees in the other. The bees in the cage consumed all the nectar the tree produced so that this tree had no odor, while the other tree had a strong odor. What effect this will have is not known, yet, because the apples have not been counted.

WHAT GOOD TO ALFALFA?

Another experiment with the fertilization of bees is being conducted by this department. It is to see whether there is anything in the theory, believed by many, that the yield of alfalfa seed is greatly increased by the activity of the honeybee.

These fertilization experiments are very important, Doctor Headlee believes. If it can be proved that honeybees help the setting of apples, the value of the Kansas apple crop can be increased considerably. Many orchards have plenty of blossoms, but, for some reason, the apples do not set. If a few hives of bees in the orchard will help the setting, it will be a profitable investment, as the bees will more than pay for their keep. The same may be said of alfalfa. The tests will not be completed for some time yet, but when they are the results will be given to the orchardists and alfalfa growers of Kansas.

AN EXPERT IN GRAFTING.

You Can't Fool the Man of Experience, Especially an Ex-Office-Holder.

A western man who had been in politics applied for a job in a nursery. He knew all about setting out trees and spraying them, and a lot of other essential things.

"Do you know anything about grafting?" asked the boss. "Well," replied the applicant, "I was county commissioner the year we let so many contracts for bridges."—*The Saturday Evening Post.*

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

FRANK H. J. WATERS.....Editor-in-chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, JUNE 1, 1912.

THE FURROW'S END.

Many farmers see only the end of the furrow they are plowing. Their goal is to get to the end and start another, and at the end of every row they see the dollar mark, and the bigger it is the happier they are. The college-trained man sees more than this. The tilling of the ground is only a step in the wonderful miracle of nature in the germination of the grain. Farming to him is a pleasure, not a "grind."

The man with unbounded imagination, backed by the enthusiasm which every college man ought to have, is sure to become a center in the social and political movement in his own community.

Where in the whole universe is there a larger field for imagination than on the farm? It's the material, practical farmer that needs to develop his imaginative qualities. The Kansas State Agricultural College is making practical farmers and at the same time helping to develop their imagination. By imagination is not meant the building of empty air castles that fall with the first gust of a material wind; but, the imagination that conceives and plans great enterprises, that sees the real, practical beauty in farm life, and exerts every energy to make out of the rural community an ideal home.

S. C.

THE 1911 YEARBOOK.

The eighteenth volume of the Yearbook (1911) has just been issued by the United States Department of Agriculture. It contains thirty-one articles, sixty-seven full-page illustrations, of which nine are colored, and twenty text figures. The department's appreciation of the services S. A. Knapp gave to agriculture during his long career is indicated in the selection of his portrait as a frontispiece, and in printing his biography as the first article in the volume.

Closely connected with this work, and especially interesting to the residents of many parts of the West, is the cultivating of the arid and semi-arid soils of that region; hence the papers relating to dry farming and irrigation, entitled "Some Misconceptions Concerning Dry Farming," "The Water Economy of Dry-Land Crops," "Possibilities and Need of Supplemental Irrigation in the Humid Region," "The Value of Snow Surveys as Related to Irrigation Projects," and "The Present Outlook for Irrigation Farming," will prove of value to farmers and other dwellers in that section of the country.

The two papers on the "Primary Principles in the Prevention and Treatment of Disease in Poultry," and "The Handling and Marketing of Eggs," with the articles on "The Reduction of Waste in Marketing," and the "Commercial Methods of Canning Meats," will prove of interest.

BUT HELP THE BALL TEAM.

You may turn down church notices and charge for deaths and cards of thanks and obituary verses; you may refuse to print a word for the Ladies'

Aid about the forthcoming ice-cream social—because it's a money-making scheme, you know—but turn the paper over to the baseball fiends. That's the policy that puts money into Mr. Editor's pockets and feeds his children, is it not?

Yes; it is—not. Are you doing your part, this summer, Mr. Easy Mark Editor, to help along the poverty-stricken owners of the local ball team? Are you doing all you can, inquires *The Fourth Estate*, to boost the national game? Have you printed the pictures of the leading members of the clubs, with biographical sketches, or those of the managers? Have you had your photographer spend a couple of days taking views of the practise games? Have you printed twenty or thirty columns of personals about the men who are to earn fortunes for the owners of the clubs this summer? Have you engaged extra men to handle the late baseball editions?

Of course, the fact that you get practically no return for all this expenditure—this applies especially to the largest cities—should not deter you from your public-spirited work. The baseball magnates will jingle in their pockets the money they are making at your expense and laugh in their sleeves as they think of the way you are giving them the very best kind of advertising, free of charge.

MAKE-UP.

Most farm papers are making a big mistake by not paying more attention to the make-up of their pages. Many editors have the wrong viewpoint, and think that because an agricultural journal is a technical publication it is not necessary to write interesting heads and carefully balance the pages. The circulation of the papers which the editors with the queer mentalities are editing would increase faster if the copy was carefully arranged.

You would better make up a dummy of the advertising and all of the leading articles, and mark the place where every head and engraving is to be placed. Then "camp" with the make-up man until all of the type is placed where you desire to have it placed. A man from the editorial office should always direct the make-up.

Another thing about the illustrations: One of the reasons pictures frequently show up so poorly in farm papers is the poor copy given to the engravers. No engraver can make good engravings from poor copy. It can't be done. Every picture should be on a glossy finish with a solio print. Engravers especially detest the rough-finish papers. Of course, farm writers can not always get the best copy for the engravers, but they could do much better than they are now doing.

There is much of financial importance in this question of arrangement and balance in farm journals. One of the important reasons for the success of one of the Philadelphia farm papers is the neat arrangement and balance of its pages.

F. B. N.

CHEESE.

While so much is being said and written about the high cost of food stuffs, it is well to remember that the housekeeper who has the most knowledge of the materials with which she works, and the most skill in applying her knowledge, is the one who can make the money at her disposal go the farthest.

The cheaper cuts of meat are as nutritious and, when well cooked, are as palatable as the more expensive cuts. If she wishes to use something in place of meat, she has fish—fresh and cured—milk, eggs, beans, peas, and similar legumes, nuts if they are relished, and last—but very important from the standpoint of its food value, palatability, and the great number of ways in which it can be used—cheese.

The ways in which these substitutes for meat can be served are numerous and varied. Individual taste and food habits are to be considered, but, in general, it is true that the relish with which other dishes are accepted in place of meat depends upon the ingenuity and skill of the cook. It seems a foundation principle that as meat is a savory dish, any acceptable

A Golden Text.

Bread of deceit is sweet to a man; but afterwards his mouth shall be filled with gravel.

Every purpose is established by counsel; and with good advice make war.—*Proverbs 20:17, 18.*

substitute for it must be savory, or must be made so by suitable seasoning and proper cooking.

Those who wish to make substitutions of these foods for meat often desire to know how much of each is necessary in order to replace a given amount of meat. If we consider only the proteins of the meat, the following general statement may be made: 2½ quarts milk, 1½ pounds fresh lean fish, three-fourths pound dried fish, two-thirds pound ordinary cheese, somewhat less than a pound of mixed nut meats, 9 eggs, one-half pound shelled peanuts, or two-thirds pint dry beans, peas, cowpeas, or lentils is equal to a

Force in Writing.



PEAKING of Robert Browning before the Twentieth Century Club, Prof. E. Charlton Black said, lately, that whereas it is supposed that the good writer must be deep without being obscure, and forcible without being abrupt, Browning managed to be deep in spite of his obscurity and forcible in spite of his abruptness. He established really a new technique in poetry, as well as extending the reach of poetry to include the thoughts and feelings of our common humanity, of every man, in a more vital and self-revealing fashion than had been done in poetry before.—*Monitor.*

pound of beef of average composition.

It will be seen that two-thirds of a pound of cheese contains as large an amount of what laymen call "the muscle forming" materials, as one pound of beef of average composition. According to abundant analyses, cheese compares even more favorably with meat if its fuel value instead of its percentage of protein is taken into consideration, for one-half of a pound of ordinary cheese yields as much energy as a pound of beef of average composition.

NEWSPAPERS FOR NOTHING.

How many newspapers are sold for what they cost? Isn't it a fact that most of you give away the paper and the news—give it—and hope to make it up in the advertising? Is that good business? So far as this paper is concerned it is freely acknowledged that the establishment makes about two cents a year on every paid subscription, and no more. But in this case the state appropriates no money for the printing and the stock. The superintendent graciously supplies that out of his earnings in the interest of college publicity. Of course, in a way, it is all in the interest of the family, and the Kansas Agricultural College is the gainer.

But coming back to the real newspaper question: Why is it necessary to sell a paper for one cent a copy? Everyone knows that is throwing the paper into your hands for worse than nothing. As a matter of fact, you can't make a newspaper, nowadays, and deliver it on the street or in the homes for one cent and not lose money. Take, for instance, the forty-four or forty-eight pages of The Kansas City *Star's* Sunday edition. That much paper is worth more than five cents, even if you bought it for the pantry, and didn't read a line.

Think of the Sunday edition of the Los Angeles *Times* with its 140 or 160

pages, the year round, for five cents! Remember, too, that big advertisers don't base their advertising rates on street sales. But General Otis doesn't sell his daily paper for a cent. He charges three cents, and thereby saves for himself what hundreds of publishers are losing from their advertising revenues. The man who won't pay two or three cents for a good paper ought not to have one.

KANSAS DIRT—AND MILK.

Kansas dirt is a valuable asset, in its proper place, says the dairy commissioner at the Kansas Agricultural College, in a recent bulletin, but found in milk it is a sign of unclean dairying and criminal carelessness. It is difficult to convince a person who has never cleaned a separator bowl that average milk contains considerable quantities of dirt and manure, but an examination of separator slime should convince the most skeptical that painstaking methods in dairying are necessary if we expect to sell or consume clean and wholesome milk products.

The dairymen of the state pay dearly for the dirt in milk, since the standards of all dairy products on the market and the prices paid for milk and cream are determined by their flavor and purity. Butter of good flavor cannot be made from cream skimmed from dirty milk.

Most foods which are dangerous to health warn us of danger either by their odor of decay or by their change in appearance. The souring of milk is regarded by many as the first indication of impurity, but both milk and cream undergo decomposition and may be dangerous to health long before souring occurs. For this reason an exceptionally high standard of cleanliness must be observed in milk production.

The principal sources of contamination are dust from the air, dirt and manure from the cows' bodies, and particles of old milk left in pails and utensils which were not thoroughly cleaned. All of this foreign matter is heavily laden with bacteria which will pass through the finest strainer, even though the coarser particles of dirt are strained out. Clean milk does not require straining.

Although a large amount of the dirt in milk is left in the separator bowl, the great majority of the bacteria formerly on the dirt are washed into the cream, where they finally develop bad flavors and cause decomposition. The most skillful buttermaker cannot repair this injury to cream, and the low quality of butter made from it is responsible for low butter-fat prices.

Try It, on a Hot Day.

They are getting \$22 a ton for alfalfa in Kansas, and raising alfalfa in Kansas is just play.—*Christian Science Monitor.*

Envy is merely awkward homage paid to merit by inferiority.

When June is Here.

James Whitcomb Riley.

When June is here—what art have we to sing
The whiteness of the lilies midst the green
Or noon-tranced lawns? Or flash of roses seen
Like redbirds' wings? Or earliest ripening
Prince-Harvard apples, where the cloyed bees
cling

Round winey juices oozing down between
The peckings of the robin, while we lean
In under-grasses, lost in marveling?
Or the cool term of morning, and the stir
Of odorless breaths from wood and meadow
walks.

The bobwhite's liquid yodel, and the whirr
Of sudden flight: and, where the milkmaid
talks

Across the bars, on tilted barley-stalks
The dewdrops' glint in webs of gossamer?

A Toast.

O, month of June!
O, happy brides!
O, sunshine, laughter, song!
May it be—always—some glad tune.
Your—whole—life—long.

C. D.

SUNFLOWERS.

There were four kings and four queens at the funeral of Denmark's lamented sovereign, last week. Did someone call for a new deck?

The Fifth Avenue hotel at Augusta, Kan., burned a few nights ago. Having stayed one day at the Fifth Avenue, we are sorry our lips are sore.

The proposal to coin a one-half cent piece should be frowned down. The state auditor would almost certainly favor it, especially on dining cars.

The most noticeable thing about the big meetings of men and women at Larned, last week, was the absence of Leon Marx, *The Star's* owner in Kansas.

Why not call the general manager of the White Star Line D'Ismay, now that the Senate has censured him so fearfully? (Quick, Clarence, the soup strainer.)

The United States Senate, it was reported by *The Star*, would give several raps to survivors of the Titanic disaster. It's too late. The wraps were needed when the survivors turned out near the iceberg.

It is estimated that the United States capital invested in Mexico is more than seven billion dollars. This explains the interest this country feels in the outcome of the guerilla warfare in that republic.

This department is busy, just now, preparing its annual advice to the graduating class. This advice will appear in the Commencement number, June 15. Commencement, you may have noticed, is always the end of things.

The supreme court of Massachusetts has decided that a woman may wear her skirts just as long as she likes, so there. And does this court intend to pass, also, upon the tightness and opacity—or lack of it—in the same garment?

The queerest and most undetective thing about William J. Burns is his willingness to lecture about how he detects crime. This characteristic, in the opinion of old reporters, indicates the "Harness cop," or common, street variety policeman.

Dr. David Allyn Gorton of Brooklyn is bragging because, he says, he is the father of twins at 80 years. Isn't it fine to see an old man, so close to the grave, slipping into the shadows of the great beyond with the confidence of youth still unshaken?

Miss Felice Lyne used to be a mighty nice, lovable sort of girl when she went to school in Kansas City. And now she's gone and hit Oscar Hammerstein a "stinging blow on the cheek." Next it will be stolen jewels, marriage, divorce, and so on.

A sailor on the battleship Ohio was put into the "brig" in Boston harbor, a few days ago, and later court-martialed for "disobedience of orders," because he refused to be vaccinated. What do you think of that, you fine, liberty-loving Americans who talk about Russian tyranny?

The Chanute Daily *Tribune* certainly did do something startling, May 20, with its second annual "Auto Trip Booster Edition." It contained twenty-four pages—a lot of it from the Kansas Agricultural College, glory be—and enough advertising to give heart to any editor. And just to think: A few years ago, it seems, Chanute was a queer little station.

TO KEEP A HOUSE COOL.

FIRST, IT MUST BE CLEAN—THAT'S THE PSYCHOLOGY OF IT.

Store all Furniture that Isn't Absolutely Necessary—Close the Doors and Windows When It's Hot; Open Them When It's Cool.

You are not human if you do not try to get through the warm season with just as little work as possible. To do this first have a grand house-cleaning; eliminate all of the unnecessary, and then see if you can't keep a comfortably cool house this summer with comparatively little work.

Don't leave a heavy, thick-napped rug on your living room or dining room this summer, for they are decidedly out of place and look hot. Everyone recognizes the true value of temperament, and much depends on how cool your home looks.

BARE FLOORS ARE COOLER.

So take up the heavy rugs and carpets, and either leave the bare, polished floor, or put down some sort of inexpensive covering. Rag rugs that are woven in many pretty designs are very practicable and much used. Old-fashioned braided rugs are also in vogue, while jute or grass rugs, besides being pretty, are easily kept clean.

You probably do not care to go to the expense of buying very expensive curtains, but take down the heavy ones you used during the winter and then, after you have packed them away where you can't get at them, you will simply have to get some new ones. No living room seems perfectly homey without some sort of curtains, but draperies may be made of muslin, scrim or even cheesecloth. A plain hem, and shirred at the top and hung on brass rods is a simple and effective method of arranging the curtain. Should you prefer it less plain, a simple stencil design adds a distinctive touch.

STORE UNNECESSARY FURNITURE.

Now take every unnecessary piece of furniture out of the rooms, so they won't appear hot and stuffy. The portières between the parlor and dining room should go. Should you have other rooms in which there are doors that might be removed, do so; for everything that you can do to create the feeling of largeness should be done.

Now that everything is arranged and in order, there is something else for you to remember. Where the fly is, there heat will be also. They make you seem hot, so do away with this troublesome creature.

Make it a point to keep the house closed as much as possible during the heat of the day. Then, when it's cooler in the evening, open all the windows and doors. Always remember, too, that a cool house is a clean one.

ALUMNI NOTES.

Miss Grace Shelley, '10, has been visiting in Manhattan.

Miss Pearl Smith, '11, spent last Friday and Saturday with college friends.

Miss Ethel Clemons, '05, of North Yakima, Wash., has been visiting college friends.

H. G. Roots, '11, who has been farming in the northwestern part of the state, visited the college the first of the week.

P. V. Kelley, '10, was renewing acquaintances at the college this week. Mr. Kelley is in the real estate business in Denver, Col.

D. G. Roth, '11, is visiting in Manhattan this week. Mr. Roth has just closed a successful term of school at Mound Ridge, Kan., of which school he was principal.

Miss Belle Arnott, '10, has been visiting college friends. Miss Arnott taught domestic science this school year at Eskridge, Kan. She will teach at Blue Rapids next year.

A letter was recently received by Professor Dickens from S. I. Borton, of the class of 1890. Mr. Borton has been employed by the American Sugar

Company as an expert for the past 10 or 12 years. He is at present consulting agriculturist for the Corcoran Sugar Company at Corcoran, Cal.

Mattie Kirk, '10, Reva Cree, '10, Clara Kliewer, '11, Alice Keith, '11, Gladys Seaton, '11, and Rena Faubion, '10, expect to attend Commencement exercises at the college this year.

Miss Margaret Justin, '09, who has been teaching domestic science in the Bennett Home at Clarkson, Miss., came home last week. She will spend the summer with her parents on Fremont Street.

H. Broberg, a graduate of the civil engineering course last year, is visiting his parents in Manhattan, this week. Mr. Broberg has been principal of the St. John, Kan., high school the past school year. He will leave soon for Sterling, Ill., where he will begin work with a surveying squad.

Addresses of the mechanical engineers of the class of 1910: E. H. Dearborn, Manhattan, Kan.; Floyd Harrison, 64 West Main St., Alliance, Ohio; A. R. Losh, Manhattan, Kan.; F. W. Newacheck, Hutchinson, Kan.; Harold E. Rowe, State College, Pa.; care of Univ. Club; Ward Woody, E.

BAD CREAM, LESS MONEY.

CREAMERYMEN NOW REWARDING PRODUCERS WHO ARE CAREFUL.

Two Cents More a Pound This Year for Best Butter Fat—Might Have Saved a Million Dollars to Kansas Dairymen in 1911.

One million dollars was lost by Kansas dairymen and creamery men during the year 1911, says D. S. Burch, state dairy commissioner. This loss was the result of the poor quality of cream produced. The creameries could not make the highest price butter from such cream, so they paid less for it.

The greatest loss was to the dairymen who produced the best cream, because the good cream was mixed with the poor. Now, the Kansas experiment station has a simple method of grading cream which already has been adopted by many creameries. By its use the producers of the highest grade of cream will get the highest price.

GRADING CREAM, NOW.

"First-grade is cream that is about twice as sour as sweet cream at the point of turning," says D. S. Burch, state dairy commissioner. "This

mixed with cold cream. If these precautions are observed, a much better grade of cream may be produced."

PLUM PUDDING RECIPES.

And You Won't Have to Put in a Drop of Liquor.

Not long ago THE KANSAS INDUSTRIALIST published a recipe for plum pudding in which was to be put a certain quantity of brandy. This was a terrible blunder, in Kansas, and in an institutional paper. The entire state was aroused. Fourteen women and three men wrote the paper demanding a correction or a retraction, or something. Then someone with amazing intelligence inquired how it had happened, and learned that the poor, little recipe, four or five lines long, was a "filler," that had gone in without reading, had not originated in the college, was not read by anyone in authority, and finally that no one in any way connected with the tragedy used brandy in or out of puddings; and that, moreover, the editor was away at the time making a temperance speech to a woman's club whose members didn't need it.

Hereafter every recipe will be submitted to an acid test to detect any reference to anything which, by any stretch of the most heated imagination, might be construed as intoxicating. A graduate of the college, in Oregon, has supplied three recipes for puddings that load but do no inebriate. Here they are:

One cup suet chopped fine, 1 cup sugar, $\frac{1}{2}$ cup molasses, 1 cup raisins, 1 cup currants, 2 eggs, grated rind of lemon, spices and candied peel to taste. Mix with one cup sour milk in which one level teaspoon soda has been dissolved, add flour to make a rather stiff batter, pour into pudding mould, and boil or steam 3 hours.

Two cups graham flour, 1 cup molasses, 1 cup sour milk, $\frac{1}{2}$ cup brown sugar, 1 teaspoon soda, 1 egg, 1 cup raisins, $\frac{1}{2}$ cup currants, $\frac{1}{2}$ teaspoon each cloves, cinnamon, and nutmeg, a little candied peel, 1 cup any kind nut meats (or $\frac{1}{2}$ cup suet). Steam 3 hours.

ENGLISH PLUM PUDDING.

One pint beef suet, $\frac{1}{2}$ pint sugar, $\frac{1}{2}$ teaspoon nutmeg, $\frac{1}{2}$ teaspoon salt, 1 pint raisins, $\frac{1}{2}$ pint currants, $\frac{1}{2}$ pint citron, 1 pint apples (chopped rather coarsely), 1 pint sweet milk, 1 heaping pint stale bread crumbs, 4 eggs (beaten separately), enough flour to bind together (about 1 scant pint). Steam 4 hours.

WHY THIS BOY DESERTED.

Gave up a Job for an Emergency Call from the Farm.

A writer in the *Farm and Fireside* tells a good story to illustrate his side of the old question about boys leaving the farms:

"I met a stalwart young fellow a few days ago who had been away from home about six years. When he left, he said, he had very little education, but by steady, industrious labor he has 'won out,' and to-day is a promising young lawyer. He told me that the first year he left the farm he obtained employment in a machine-shop at \$12 a week. He worked hard for nearly three months, when one day he received a telegram from his father, asking him to return at once. Having left a delicate little mother, he rushed home with all haste, fearing to find some great trouble at the end of his journey. His father met him at the station and calmly explained that his hired man had left and he could not get his hay in alone. My young hero, not daunted in the least, pointed out to his father that he had given up his position to return home and asked what pay he was to receive for his work. The father promised a certain small sum. After two months' hard work the son asked for money to buy a suit of clothes, which was given to him. At the end of the season, when the young man wanted a final settlement, he was put off from time to time and at last went away to the city with an empty pocket and a heart filled with resentment."

FEEDING FOR A RIBBON.

START WITH GOOD STOCK AND FEED RIGHT—NO SECRETS.

Some Steers for the Ring Now in the Process at the Agricultural College—Corn, Bran, Oil Meal and Grass the Ration Now.

Fitting steers for the fat classes of the live stock shows of the country isn't a secret. Why is it, then, more persons aren't successful? Good individual animals—pure bred or high grade—are necessary. That's one reason. Careful feeding and attention complete the plan for making winners.

Steers at the Kansas Agricultural College that are being fitted for the shows this fall—the state fairs, the American Royal at Kansas City, and the International Live Stock Exposition at Chicago—are not fed any predigested food, nor are they fed sugar or molasses, as many persons believe.

KEEP THEIR APPETITES KEEN.

The grain ration fed these steers during the winter consisted of four parts corn, five parts bran, and one part oil meal. The grain was mixed with cut alfalfa hay. The amount of hay given the steers was a little less than they would eat. It was enough, but their appetites were kept keen. The steers were fed twice a day. The grain ration varied from six to twelve pounds, depending on the appetite of the animal. For a greater part of every day they were turned out into a lot for exercise.

The ration and method of handling was changed when the grass was long enough in the pasture for grazing. The steers were turned out in the pasture at night and returned to the barn in the morning. The pasture is only a short distance from the barn.

INDOORS IN HOT WEATHER.

The grain ration was then changed, also, to five parts corn, four parts bran, and one part oil meal. The grain was mixed with cut alfalfa hay. The amount of grain fed was increased slightly over the winter ration. The animals were fed three times a day. Two of the feeds were moistened with water.

These show animals will be taken off the pasture when the hot weather comes. Then they will be turned out in a dry lot at night. During the day they will be in the barn. The doors and windows will be screened to keep out the flies.

PLANT YOUR CUCUMBERS NOW.

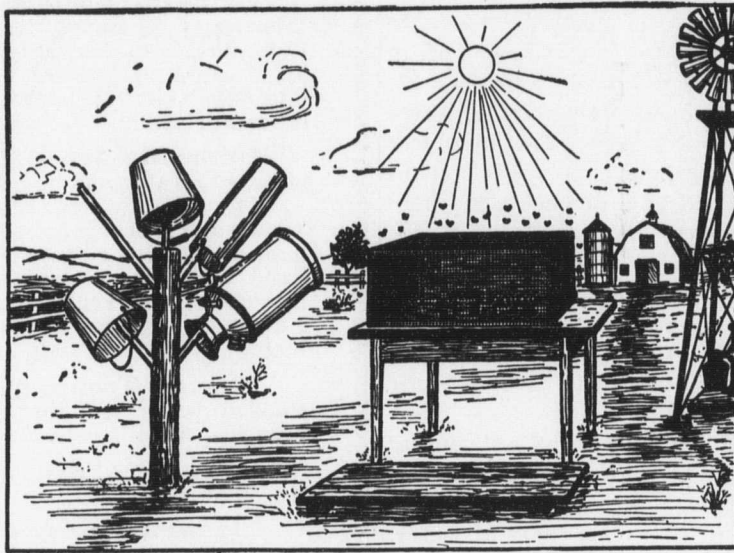
Use Plenty of Fertilizer and Plenty of Seed—Thin Later.

The usual time to plant cucumbers is the first week or so in June. The soil must be very thoroughly worked into a fine, loose loam, and an abundant supply of fertilizer must be used. There's not much danger of having the ground too rich. If the patch planted is not too large it is a good plan to put one or two shovelfuls of rich farmyard manure in each hill at the time of planting.

Plant the seeds in hills about six feet apart each way. Plenty of seeds should be used, for it is better to thin out the plants than to have a poor stand.

Cultivating may be done by hand, or with one horse and a small plow if the patch is large enough. After the vines begin to run cultivation should be stopped, as it isn't a good plan to disturb the tender growing shoots. The vines will completely cover the ground very soon after they begin to run. Should a few weeds persist in growing, they may be carefully pulled without harming the vines.

Cucumbers usually are free from disease, the two greatest pests being mildew and a small insect which sometimes comes in swarms, attacking all kinds of green vines. These insects can be killed or driven away by sprinkling the vines with wood ashes. Mildew is much less common, but requires more drastic treatment. It attacks the foliage and causes the leaves to turn yellow and fall off. Spraying with some fungicide, such as bordeaux mixture or potassium sulphide, will usually prevent mildew, provided it is applied promptly.



Sun-Rack and Table for Airing Milk Utensils.

An efficient means of keeping milk utensils and separator parts clean and sweet. The wire cage made of window screen should fit the table fly-tight. Sunlight is a powerful disinfectant. Utensils should not, however, be thus exposed in dusty weather.

62nd and Fremont St., Rose City Park, Portland, Ore.; Floyd E. Wilson, Manhattan, Kan.

The Los Angeles Alumni Association of the Kansas Agricultural College will hold its annual picnic June 22, 1912. The association would be glad, at that time, to meet any friends who are coming to the coast for the summer. For further information, address the secretary, Miss Mary Collier, 1061 West Thirty-first Street, Los Angeles, Cal.

FOUR STEERS BRING \$563.12.

A Kansas Farmer Makes a Record for Himself and the Market.

J. Q. Brown of Whiting, Kan., marketed to-day the highest-priced steers he ever sold, although he has been a farmer and cattle feeder many years. In a shipment of mixed stock Mr. Brown brought in, he had four Short-horn steers raised on his own farm of the three-year class that weighed 1522 pounds, and sold for \$9.25, the highest price paid here this year. These four steers aggregated \$563.12.

"I never received any such a price before for steers," Mr. Brown said. "They were good in quality, and fat, and certainly brought a very high price."—*Drovers Telegram*.

Touch of Orient.

The girls who like to give parties, and especially the girls who are not in cities, may like to hear of little novelties that are not expensive and yet will add pretty touches to their party tables. The Japanese rice-paper napkins that come folded and colored to represent people, houses, birds, frogs, fish, turtles, etc., are good to keep conversation going as the guests gather around the refreshment table. The napkins are especially nice for a Japanese tea.—*Ladies' Home Journal*.

The longest stayer doesn't always win the girl.

cream is classed as first-grade because it will make a very good grade of butter. The dairy farmers in a number of communities are now having their cream graded and selling it for two cents more than second-grade. This additional price for first-grade cream will, of course, act as a stimulus for the production of the higher-grade product.

"Hundreds of tests made show that if cream is kept in well water, running springs, or tanks of cold water, it usually grades high, while cream kept in cellars, caves and uncooled and unventilated places is of poor quality and would not make more than second-grade butter. Cream very readily absorbs odors given off by coal oil, spoiled vegetables, strongly flavored meats, and unclean stables. The butter fat also will absorb odors of feed the cattle eat, such as weeds, spoiled silage, or musty hay.

KEEP CREAM COLD.

"A low temperature is necessary for first-grade cream," the dairy commissioner says. "When cream is kept below 60 degrees by keeping it in cold water or other means, it will keep in a good condition for three or four days, but if the temperature rises over 75 degrees the cream will soon sour. This souring is caused by bacteria that develop rapidly when cream reaches the right temperature. Many bacteria that cause disease get into milk from the dust. Milk has been known to transmit tuberculosis, diphtheria, typhoid fever, and other less important diseases.

"To produce good milk requires care on the part of the dairyman. The cows should be kept in the pasture as much as possible. The dirt should be removed and the cow's udder dampened before milking. All pails and cans should be thoroughly sterilized. You should skim about 35 per cent cream. The separator should be thoroughly washed after each separation. Warm cream should not be

TO LIGHT A FARM HOME.

FOR LESS THAN \$500 A COMPLETE ELECTRIC OUTFIT CAN BE HAD.

Besides Lighting, Such a Plant Will Run a Washing Machine, Fan, Cream Separator, Iron, Sewing Machine, and Do Other Work.

An electric lighting system can be made a paying proposition on the farm. Ten years ago, if a man had said that motor cars would be found on hundreds of farms, there would have been some danger of his having to face a court of inquiry. But as the demand has grown the price has decreased until to-day many farmers use the motor car for work as well as pleasure. The same will be true of farmers' electric lighting outfits. For demonstrating and experimental purposes, an outfit such as a farmer might care to buy has been installed in the department of electrical engineering at the Kansas State Agricultural College. During the last State Farmers' Institute more than four hundred farmers visited this outfit and listened to the explanations of the means of operation.

Since the perfection of the tungsten lamps, a small lighting plant has been possible. A tungsten lamp has a filament inside the glass bulb made of a metal, tungsten, in place of the carbon which is used in the common electric lights. A lamp with this tungsten filament gives three times as much light for the amount of electricity used as the carbon lamp does. Tungstens cost more than the carbon lamps, but they reduce the cost of the battery enough to make them a good investment.

THE COMPLETE OUTFIT.

The common rural lighting outfit offered for sale includes a dynamo to generate the electricity, a gasoline engine to run the dynamo, a switchboard, and a storage battery to store electrical energy to be used by the lamps and small motors without running the engine. A good, complete system can be purchased and installed for less than five hundred dollars, not much more than one of the dangerous gas plants costs. This can be lowered if the farmer has a gasoline engine or wires his house himself. Electric lights will lower the insurance rate because there is not so much danger of fire when they are used as when gas, gasoline, acetylene, or coal-oil lamps are burned.

A one-horsepower engine, or an additional horsepower to any engine, will run a dynamo large enough for a ten-ampere outfit. A ten-ampere outfit is satisfactory for the average farm. When the large power is to be supplied by the gasoline engine, the dynamo can be run at the same time, requiring a little more gasoline but no more time. Under such circumstances, the cost of electric lights will be as close to nothing as it is possible to have good lights.

The dynamo, switchboard and battery are shipped ready to set up. In most cases, a good electrician should be secured to install the dynamo and cells and do the wiring. The cells must be watched carefully. Distilled water should be used to fill the batteries. The water must be above the plates at all times. It is advisable to purchase thin boards to separate the plates, as any connection, even a flake from one of the plates, will reduce the value of the cells. The battery should be charged and discharged, occasionally, to its full capacity if the demand upon it is not sufficient to do so. If this is not done, it will not work satisfactorily.

THIS PLANT WILL WORK.

A ten-ampere battery will operate all the lights required for a seven- or eight-room house, as well as lights for the out-buildings. In addition, a small vacuum cleaner, electric toaster, wringer, washing machine, sewing machine, fan, or electric iron can be used.

The farmer, after determining the number and sizes of lights he desires in each room, must estimate the number of hours they will burn in the morning and evening. These figures

can be obtained from the number of hours that artificial light is used now. It must be remembered that the electric system should be large enough for the heaviest average load demanded from it, which is sometime in the winter. This does not mean that the battery should have sufficient capacity to run all the lights on the place at one time for any length of time. On special occasions, as parties, the dynamo can be run in parallel with the batteries. A switchboard to permit this should be purchased, always.

The average house with seven rooms, cellars and closets, should burn less than three hundred watts a week. The storage battery of a ten-ampere outfit will produce three hundred watts

More Things to Think About.

Does it pay to plant wheat on summer fallow in western Kansas? What are some of the objections and what are some of the advantages to summer fallowing land for wheat in western Kansas? What is a good rotation for wheat in your county? When does deep plowing for wheat give best results, and why? Why not, in western Kansas, spread straw over fields after seeding, between October and January?

When is the best time to plant wheat in your county? Why? Does it or does it not pay and under what conditions might it pay to harrow in the fall after seeding? In the spring? Does it pay to fan or grade wheat for planting? Does it pay to send out of the state for seed wheat?

What variety is best to plant in your county? Why is it advisable to treat seed wheat for smut? What preparation and what method of treating is used? Why is it unsafe to sow treated seed before it is dry?

At what stage of ripeness should wheat be cut in order to produce the best quality, soft dough, hard dough, or dead ripe?

Which enables us to preserve the best quality in our wheat: cutting with binder or with a header?

From the standpoint of quality and market grade, does it pay to carefully shock and cap the wheat cut with a binder?

What is the added cost, if any, in stacking wheat before threshing as compared with shock threshing? What are the advantages of stacking wheat instead of threshing from the shock?

What causes the following kinds of damage in wheat, and how may we avoid them: "Stack-burnt" wheat, "bin-burnt" wheat, smutty wheat, sprouted wheat?

Why does not the farmer raising the better grade of wheat receive a greater premium over the man producing the poorer grades?

without recharging. It takes eight hours to charge the battery after it has been discharged, completely.

THE COST OF WIRING.

The cost of wiring the house will vary between forty and one hundred dollars, depending upon the amount and grade of wiring and the fixtures used. A house can be wired cheaper when it is being built than at any other time. The cost of upkeep is slight. At the end of six years, new positive plates for the cells may be required at an expense of one hundred dollars.

Another electric outfit is called the "direct-connected." The generator in this system is connected to the engine directly instead of by a belt, as in the ten-ampere plant. A direct-connected system will cost between eight and nine hundred dollars, because a special engine must be furnished to obtain an even speed and smooth lights. As there are no storage cells, the engine must be run whenever the lights are used, which would be unhandy in the mornings on a cold winter day. As the generator in this outfit has a higher voltage than the storage battery system, the wires can

HAVE A FIRST-AID BOX.

ACCIDENTS ON THE FARM SHOULD BE GIVEN ATTENTION QUICKLY.

Trivial Cuts, Unless Cared for at Once, May Cause Blood Poisoning—Make Your Own Bandages—An Antiseptic Necessary, Also.

Is there an emergency box on your farm on which you can depend in case of accident? At this time of year accidents on the farm are numerous. In handling machinery and in working with animals one is likely to receive a cut or bruise which will prove trivial if given immediate treatment, but if not thoroughly cleaned and bandaged, the innocent-looking little wound may cause the sacrifice of a limb or a life, from blood poisoning.

The "emergency box" should contain several bottles of antiseptic solutions and a number of bandage rolls of various widths. With these, the few simple precautions which often mean much, can be done before the doctor arrives.

HOW TO MAKE BANDAGES.

Antiseptic bandages may be bought in different widths at 10 cents a roll from any drug store, or they may be made from an old sheet, bleached cloth being the better. The sheet must be clean. It should be torn in strips at least two yards long and in the following widths: 1 inch, 1½, 2, 2½, 3 and 4 inches. Make two or three strips of every size. The narrower bandages are the most useful. Now make a tight roll of each strip and put them away in a box out of the dust. Also have a box of absorbent cotton and a few pieces of cloth about 12 inches square.

An antiseptic is a solution that kills germs, and germs cause a large part of the trouble in wounds. Carbolic acid probably is the best general antiseptic. Get the strong carbolic acid from a druggist and use a teaspoonful of this in a quart of water. This is a safe strength for any part of the body except the eye. If any of the pure acid is accidentally spilled on the hand, put pure alcohol on the place at once; this neutralizes the effect of the acid. A number of patent antiseptic solutions, such as dioxigen, hydrogen peroxide, etc., are sold, and are very good to have in the "emergency box." These preparations lose strength on standing in the light.

TO DRESS A WOUND.

A good way to dress an ordinary, small wound is to make a solution of carbolic—a teaspoonful to a quart of warm water—and, using some absorbent cotton, wash the wound thoroughly, taking care that the antiseptic penetrates every part, and that all dirt is washed out. If it is a hand or finger that is injured, it may be soaked in the solution for a few minutes. This often will stop most of the bleeding. Then soak a piece of clean cloth in the acid solution, squeeze it fairly dry and wrap it around the injured part, using three or four layers. Select a bandage of suitable width and apply it neatly. Fasten it by pinning with a safety pin, or by ripping the bandage down the middle for several inches and, crossing these ends, use them as strings to tie on the bandage. If there is much bleeding it may be necessary to put some dry absorbent cotton over the moist cloth, applying the bandage over all.

Women in Journalism.

Melville E. Stone, general manager of the Associated Press, says that a woman in journalism should be able to write an editorial on the initiative, referendum and recall with as much facility as any one else. Too many women, he said, confine themselves as journalists to the fashions and beauty column.

be strung farther from the generator.

Other systems have been tried, as well as combinations of the several types. These two, however, are the most successful for the farmer, with preference given to the storage battery outfit.—L. T. Perrill, Dept. Ind. Journalism, K. S. A. C., in *Technical World*.

A Summer School

AT THE

Agricultural College For the Teachers

Summer Term begins June 13 and ends July 25

Agriculture, Manual Training, Home Economics, and Industrial Journalism.

The legislature passed a law requiring all grade and rural school-teachers to pass an examination in elementary agriculture. This law became effective June 1, 1911.

If you expect to teach school it will pay you to invest your spare time, and the small amount necessary to equip yourself properly, in the vocational subjects required by the law.

The Courses Offered

Domestic Science.—Food preparation. Class work 5 hours, laboratory 10 hours per week. Attention is given to method of presentation of domestic science in grade and high schools; to the application of general principles of teaching to the teaching of domestic science; to the planning of courses and equipment of laboratories.

Domestic Art.—Hand and Machine Sewing. Class work 1 hour, laboratory 14 hours per week.

The primary steps of hand-sewing are carefully observed. This knowledge is then applied in the making of a plain or fancy sewing bag, a hemstitched towel, scarf or lunch cloth, an apron, etc. The hand work is followed by practice in taking measurements, and instruction is given in drafting patterns, and making garments by machine. Lectures are given on the history and process of manufacture of the materials used in sewing.

Manual Training.—Woodwork for the grammar grades; woodwork for the high schools; forging; molding and foundry practice; machine-shop work; manual training for primary grades.

Drawing.—Freehand, object, color and design, and mechanical drawing.

Elementary Agriculture.—This course is planned primarily for teachers in the rural and village schools. The subject-matter is selected and the work presented with this end in view. The course covers a year's work in elementary agriculture for the rural and village schools. All laboratory work will be presented in such a way that it can be adapted to the needs of the individual teachers. This course is especially adapted to prepare the teachers to meet the requirements of an act of the last legislature, which requires teachers to take an examination in the elements of agriculture. It includes a study of farm crops, live stock, poultry, farm forestry, soils, agricultural botany, and plant propagation.

General Science.—This course covers economic entomology and zoölogy, chemistry, elementary physics, electricity and light, vocational education, rural sociology, methods of teaching.

Industrial Journalism.—Ten lectures, especially prepared for teachers, describing the first essentials of newspaper writing: How to prepare copy; news values in town and city; how to prepare a magazine story; newspaper organization; a brief history of journalism, news, agricultural, trade, scientific, educational, commercial, and religious; a few points on libel; high-school journalism. The series is intended only to help teachers who may desire to become correspondents or to add to their incomes by magazine writing.

Other Courses Offered:

English, history and civics; physical education, which treats of this work in public schools, and work in the playgrounds, competitive sports and practical work.

Vocational Education.—The development and significance of vocational education, and a careful study of trade and continuation schools in Germany and other countries, and in this country, with a study of pedagogy as applied to the teaching of vocational subjects in the high schools and in the seventh and eighth grades.

Vocational Guidance.—A study of the need of vocational guidance for pupils in the seventh and eighth grades and the high schools, etc.

Educational Excursions

The college has planned excursions under the leadership of experts to the experimental fields, the stock feeding yards, dairy and poultry barns, the gardens, orchards, the tree-planting plots, and the hog-cholera serum station.

Expenses

The only fee charged by the college will be the regular incidental fee of \$3.00, which the state law requires to be charged of all students who are citizens of Kansas. Nonresident students will be charged a fee of \$20.00 for the first term and \$10.00 for each term thereafter. Board and room may be had for from \$4.00 to \$5.00 a week.

For further information address

H. J. Waters, President

Box E, Manhattan, Kansas.

THE KANSAS INDUSTRIALIST

COMMENCEMENT NUMBER

Volume 38

Kansas State Agricultural College, Manhattan, Saturday, June 15, 1912

Number 33

AND MOSES ASKED, WHY?

BISHOP PARTRIDGE URGED MEN TO INVESTIGATE FOR THEMSELVES.

The Scriptural Story of the Bush That Did Not Burn Is Turned to Present-Day Graduate Needs.

The baccalaureate sermon, last Sunday afternoon, was a call to men to develop leadership, initiative, action, to do things for themselves, to investigate. It was a fine appeal, magnificently delivered, and so excellent, from the point of oratory, that it held the closest attention of more than 2000 persons for the full hour. The Rt. Rev. Sidney Catlin Partridge, bishop of the Episcopal Diocese of Kansas City, Mo., was the speaker, assisted by the Rev. Franklin G. Davis of Junction City, Kan. The college orchestra, led by Prof. Harry Brown, preceded the sermon with Massenet's "Andante Religioso." While this was being given, the graduates, in caps and gowns, entered the sections reserved for them, and a moment or two later the great audience sang "Come, Thou Almighty King."

Come, thou almighty King,
Help us thy name to sing,
Help us to praise:
Father! all-glorious,
O'er all victorious,
Come, and reign over us,
Ancient of Days!

The invocation was by the Rev. Franklin G. Davis, who also read the Scripture lesson upon which the sermon was based. This was the first ten verses of Exodus III. Prof. Olof Valley, with Miss Marie Baum at the piano, sang Case's "Great is the Holy One of Israel."

AND MOSES SAID:

Bishop Partridge appeared in the official robes of a bishop. Turning to the third verse of the text, he quoted: "And Moses said, 'I will now turn aside and see this great sight—why the bush does not burn.'"

On the background of the old testament history, clear and distinct, like magnificent figures on some rich tapestry, three great men stood out, Bishop Partridge said. These men were distinguished from and honored above all others in the testament history. They bore unique and peculiar relationships to the Lord, God Jehovah of the Hebrews: Abraham, the friend of God; Moses, the servant of God; and David, the king, the man after God's own heart.

"Moses, the servant of God, is a shepherd on the Arabian plains. How comes he there? What brings him to that strange and lonely spot? One of the saddest things in the life of any man or woman is to have life's magnificent prospects darkened and shut out as with a cloud, in an instant. For the moment all seems to be hopeless. The magnificent prospects of life seem passing away like the mist before the summer sun."

MOSES A FUGITIVE.

Such was the case of Moses, the man of God, Bishop Partridge declared. He had just crossed the threshold of life. What was to be in store for him? A Hebrew of the Hebrews, trained in all the learning of the Egyptians. No mortal man could so boast. No speaker on the platform of any graduating class ever could have expressed greater hopes than were expressed for him; ever would have held for them more magnificent prospects than those which he had, in the providence of God, passed through.

"Now, in an instant, it is dark and all is gone," the speaker continued. "The man bows his head and is helpless in the sight of God and man. What has brought him there? A sudden outburst of passion, a sudden heart-rending desire to avenge a wrong done to a fellowman, and a man who, an instant before, was high

in the government of the country. In an instant he becomes a fugitive from justice.

"What is Moses going to do? What thoughts pass through his mind? The first thought that comes to him, in that wonderful order of things by which we believe that although the Almighty foresees he does not always foretell, is that in spite of man's weakness and in spite of all power of humanity, He carries them out in the end. The Divine power is never thwarted. He changes the sinful acts of man. That is what we know to be true. We study and investigate for ourselves, but it is the Divine power that throws the flood of light in the very first place.

WHY HE TURNED ASIDE.

"Alone on the mountains or far away on the plains, man has the opportunity to meditate upon sacred things, as in the still watches of the night comes the Divine message, clearer and more distinct than it does in the busy hum of our daily lives. In the providence of God all shall be made right in the end. Moses, the man of God, knows not what to do. Will he go and see why the bush did not burn? Will he investigate the why and wherefore? The world waits for his answer. Blessed be the Lord, God of Jehovah of the Hebrews! He speaks the word, 'I will turn, I will go,' and he does. And the world sees why the bush is not burned. And he hears the message—'Take thy shoes from off thy feet, it is Holy ground.' And he comes back to be the savior of mankind, and the leader of his people. And he comes back with a power in his hand and the Divine position, the servant of God. That is the result of his patient investigation.

GO FORTH, HE SAID.

"I rejoice with you that opportunities, that magnificent prospects open out before you in life, to-day. Use thinking and reflecting power, be observant; learn that lesson, so much needed in our day, of concentration. Fix the mind absolutely upon one definite subject, concentration of energy and strength.

"Go forth and set God's people free. That is the great commission that I leave with you to-day. Go forth and stand before the Pharaohs of this earth.

"Go forth and stand before our kings of wealth and power; go forth and dare to stand before them in the name of your Maker and your God, and say unto them, 'Set my people free,' and when they ask you in whose name you command and order this, say, 'In the name of the Lord, God; the God of our fathers and still our God to-day.'"

Bishop Partridge finished with these words: "Go forth and set men free from the ignorance and darkness that hangs over the world. Go forth and set them free from superstition. Go forth and banish the demon of disease. Go forth in the name of your God-given liberty; go forth, I charge you, and set your people free."

The Military Display.

To add to the entertainment of Commencement Day, the college cadet corps of four companies gave an exhibition drill. The cadets marched and countermarched, executed "Squads Right," and oblied with the precision of veterans. A large crowd watched the drill and showed appreciation of the work of the cadets. The corps has worked hard under the command of Lieutenant Harbold, and shows the result of earnest practice. Company B, commanded by Captain Charles Leech, won the annual competitive drill between the companies of the corps, June 7. Captain Leech will receive a sword.

The class of '06 held a picnic on the campus Wednesday evening.

YOUTH RULES THE WEST.

JOHN H. ATWOOD TELLS OF THE DOMINANT SPIRIT.

Age, the Speaker Said, Means Caution and Conservatism—Youth Means Courage—Encouraging Words for the "Swelled Heads."

The class of 1912 went into what its members delighted to call "Life" with a good opinion of itself. If it didn't it was not the fault of John Harrison Atwood, who told the graduates all about "The Spirit of the West" in his Commencement Day address, last Thursday morning. The Auditorium never held more people—and it never will hold more, unless the walls are moved—than when Mr. Atwood was presented by President Waters. It was a fine, apprecia-



John Harrison Atwood, Harvard, '84.

tive, brightly arrayed audience, liberal with its applause and quick to see the proper place to give it.

THE SUN CAME OUT.

Early in the morning the sky was black with rain clouds. At 8 o'clock there was a drizzle. By 9 o'clock the clouds were breaking, and in half an hour the sun was out, and the traditional academic procession was formed. This, as usual, was led by the seniors in caps and gowns, 225 of them. Arriving at the Auditorium these formed two lines through which passed the faculty, the regents and distinguished guests, with President Waters and John H. Atwood leading. In this order they passed to their places, the faculty and the regents and guests to the stage and the seniors to the sections reserved for them. The Rev. John P. White, pastor of the United Presbyterian church, Manhattan, gave the invocation; the orchestra played Schubert's overture, "Rosamunde," and a moment later President Waters introduced Mr. Atwood.

YOUTH DOES THINGS.

The spirit of the West, Mr. Atwood said, is the spirit of America accentuated, and that spirit is the spirit of youth. This western spirit is the acme and climax of human development. "We of the West," he declared, "belong to the new, the modern, the young. Youth does things; age conserves things. Youth means doing; age means enduring. Youth means courage; age means caution. Youth is bold; age is timid. And the truth of all this finds its highest exemplification in the West. The best that we are and the best that we have comes from this self-faith, this spirit of youth, this splendid self-esteem. The individuals of old communities have the characteristics of age, as the tissues of the old show senility.

"Europe is old and the Orient is older, and if not senile, they have not that vaulting vigor and bubbling virility of our new continent. The bravest of the old world have come to us. They have been coming to us since Columbus first saw the low-lying shores

of San Salvador. Oglethorpe and Sir Walter Raleigh and Penn and Baltimore were the bravest of their time, and so they founded Georgia and Virginia and Maryland and Pennsylvania. To them, danger loomed tall, but their courage was higher yet.

"And what shall we say of those courage-expanded hearts and high-flung heads, that through the winter spindrift first saw the gray outlines of Plymouth Rock? Nature in her most savage mood rose to confront those men and women. The pestilent breeding swamp was there, men and things that crawled and prowled and slew harrassed them, but they stayed; they wrought; they conquered; and they conquered because they were brave, because they believed in themselves. And when England oppressed, they resisted, and, drawing upon their courage, they hesitated not to confront an empire in arms, an empire whose drum beats circled the world; and because of that splendid self-faith, we now read with high beating heart and brow flushed with pride the tale that glows upon the historian's page, of how at Concord Bridge, 'the embattled farmer stood and fired the shot heard round the world;' and the tale, too, of Saratoga and Brandywine, and finally how the meteor flag of England, at Yorktown, touched the dust before the new flag of America.

A NATION WAS BORN.

"And a nation was born, wherein is being worked out the highest human purposes of Almighty God. All this is but the manifestation of the spirit of the West, that, moving before the hosts of migration like the pillar of flame of old, caused the tide of civilization to roll over the Alleghanies Mountain wall, down into the dark and bloody ground of Kentucky; across the great mid-continental basin, building cities by the way, on the banks of the Ohio and of the Father of Waters, and by the shores of the great unsalted seas—those seas whose hoarded waters keep atune the mighty diapason of Niagara—on through the Sierra passes, to pause at last only when it has reached the shores from which they could see the mighty stretches of the Pacific, receiving each night 'the gold and glories of the setting sun.'

"Then chant we 'te Deum gloria' for youth, the splendid youth that is yours and your country's. Give thanks, too, for that incident of youth, your self-confidence, your conceit, the big head—the self-esteem that proclaims that you are young. It is in youth that men and nations accomplish great things. It was in the youth of Greece that Athens sprang, and her galleys, in the sweep of conquest, tossed the spray of those ancient seas, and rolled back upon the Orient the westward tending tide of Asiatic conquest.

QUOTED T. R.

Mr. Atwood assured the seniors they need not hesitate to have good opinions of themselves. "Of course," he added, "you need not run about telling everyone what you think of yourself. But have confidence in your own ability to do things and do them right. Every man who ever amounted to a thing thought well of his own ability. Why, even the ex-President of this country hesitates not—when compromise candidates and dark horses are mentioned—to say, emphatically, 'That's me.' Thank the Lord for your self-esteem. You will be told that 'Fools rush in where angels fear to tread.' Don't let that keep you back. Go in and win. Remember that the average fool wears shoes, and angels do not."

After the degrees were conferred the Choral Union sang the epilogue from the "Golden Legend," and several hundred of the visitors and college people left for the big gymnasium to attend the faculty-alumni dinner.

GOING TO CAMP, GIRLS?

AUGUST IS THE BEST MONTH IF YOU CAN WAIT THAT LONG.

Select a Spot Near Water so You Can Fish and Bathe and Row—Take Plenty of Blankets and Pillows.

August is the best time for a girls' camp. A party of girls does not usually care to spend more than a few weeks in camp, and can avoid the hottest weather in the city by camping in August.

Preparations should be made systematically, so that nothing will be forgotten. One camp party held regular meetings to make the arrangement for the outing, and found it an excellent plan; and the meetings proved to be enjoyable, too.

GET NEAR THE WATER.

Of course it is necessary to be near some source of drinking water, and it is better to be where food may be easily obtained, as it is not possible to take the whole supply to camp at first and have a good variety. The person who is to do the cooking should be consulted as to the utensils, the stove, and other requirements.

Several members of the party who are good managers ought to be chosen to arrange for the tents, rugs, hammocks, blankets, camp chairs, and pillows. If you are planning to go camping in the summer be sure to take plenty of blankets and pillows. They will always be in demand, especially when visitors come to the camp.

A careful list ought to be made of all the necessary toilet supplies. With thoughtful preparation, life in camp can have almost as many conveniences as indoor life and still have all the freedom of camp life.

AND THE TRAMPS.

A party of girls usually will prefer athletic sports to lounging around camp, and will enjoy every minute of their vacation spent in this way. The camp might be on the bank of a creek or near some lake where bathing may be indulged in. Boating and fishing are other pastimes which furnish pleasant memories of the time spent in camp. Long tramps taken to explore the country round about the camp, especially on rainy days, are good exercise and a pleasant diversion. If the camp is near any place where horses are available, girls will enjoy rides.

No one need ever fear that camp life will be dull and full of privations if it is entered into with the true camping spirit, and with the idea of a good time and a good recreation. It is those persons with the "true sporting instinct" that enjoy camping most.

THE HONOR STUDENTS NAMED.

Twenty-Seven Juniors and Seniors Attained High Scholarship Standing This Year.

The honor roll of juniors and seniors—those attaining highest scholarship standing for the last year—was announced by President Waters at the Commencement ceremonies, Thursday morning. This is the list:

Seniors—Frederick C. Duttlinger, Oliver Morris Franklin, John Russell Fuller, Arthur Thomas Case, Ruth Edgerton, Kenneth W. Phillips, Lulu Stallman, Frank Buzard, Alice Dunbar Roberts, Elizabeth Aberle, Myrtle Alberta Easley, Emma Ellen Hall, Edgar Allan Vaughn.

Juniors—Ernest H. Smies, Carl L. Ipsen, Henry Herman Olsen, Mildred Barr, Olive Tennis, Daniel W. Ziegler, Jennie Lynn Cox, Laura Victoria Peterson, Waldo Ernest Grimes, Ephraim Estelle Mather, Gladys Mary Payne, May Symonds, Ethel Nellie Vanderwilt, Harriet Ellen Dunn.

Diplomas from the school of experience are generally worth all they cost.

THE KANSAS INDUSTRIALIST

Established 1875.

Issued weekly during the college year by the Kansas State Agricultural College, Manhattan, Kansas.

PRER. H. J. WATERS.....Editor-in-Chief
PROF. C. J. DILLON.....Managing Editor
DR. J. D. WALTERS.....Local Editor

Except for contributions from officers of the college or members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism, under the direction of Prof. Charles Dillon.

The typesetting and other mechanical work is by students in the school of printing, of which J. D. Rickman is superintendent. Both these departments are in Kedzie Hall.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

The increasing demand for THE KANSAS INDUSTRIALIST makes it necessary to insist upon the payment of the regular subscription price, 50 cents a year, invariably in advance. The price to subscribers outside the state is seventy-five cents a year, in advance. No commission is paid any one for subscriptions, and no advertisements are accepted. The paper is sent free only to the alumni, to officers of the state, and members of the legislature. This rule will not be violated.

Entered at the post-office, Manhattan, Kan., as second-class matter October 27, 1910. Act of July 16, 1894.

SATURDAY, JUNE 15, 1912.

THE GRADUATE.

You must admit, nowadays, the value of brains and education. You must admit the existence of a new and higher, better standard of morals. Not so very long ago men boasted of the fact that they had done this or that and had not been in school a day after their eleventh birthday anniversary. They do not boast now; they regret. Time was, and not long since, when society received, indulgently, a scapegrace, a spendthrift, a youth who was known to be a worry to his father. If he lived a double life or was prematurely gray about the temples as a result of dissipation, such things lent attractiveness.

But not now. The man who wins, to-day, must know more than his competitors and he must be on the job a few minutes before the whistle blows.

The clock ticks—for him—only in the morning to get him to work on time. The man who leaves a nail half driven because of quitting time may never come back to finish the task. "If you are working for a man," says Elbert Hubbard, "in heaven's name work for him." This is the thing that every boy in the world to-day must keep in mind if he is to succeed. Efficiency, faithful service, loyalty—these he must have if he is to measure up to the required fitness.

It doesn't do much good, after all, to preach these things to a boy. He must have in him the stuff of which men are made; he must be naturally strong to face the big fight and do his best. This does not mean, of course, that advice at the right time is to be undervalued. On the contrary, its importance can scarcely be overrated. The point is just this: If a boy is not manfully determined to put to the best uses the attributes God gave him, the courage and energy and ambition needed in everyday life will hardly be instilled in him by much talking. He must be the architect and the builder and the sole occupant of his own house.

But education of the right sort will develop the qualities which men believe essential, and that is the education imparted, in the last four years, to the young men and women who were graduated, last Thursday morning, from the Kansas Agricultural College. It is altogether likely that no four years in their lives, in the future, will be filled with events so momentous. The work they did, the duties they learned to perform, the restraint they acquire, the respect for discipline, the hearty and courteous consideration for the rights of others—all these had and will have their important bearing on the coming years and what those years will mean to these young people. To this extent the college graduate has an advantage over an untrained person. He knows something of cause and effect. Science has taught him that a certain line of conduct will inevitably produce a certain result. With this knowledge he must steer his own course. The graduate may be a bit dismayed at his first reception outside, but with his second wind he will find himself well equipped for the pace.

INDUSTRIAL JOURNALISM.

When a boy or a girl learns something that is immediately useful, the expense involved in teaching that subject has been justified. The regents and the president will find pleasure, therefore, in viewing the results in the department of industrial journalism, organized two years ago. The students, 110 in number, have done exactly the work President Waters believed they should do when he conceived the idea of teaching "Applied English."

These boys and girls have taken an examination outside the college. Their ability or lack of it has not been decided by the instructor. The editors of more than 800 newspapers, of a hundred farm journals, of trade papers, and of a half-dozen big magazines have passed upon the articles or "stories" they have written, and have published them. This is the final test in writing. It is the difference between "writing for the magazines" and getting your productions printed.

In the two college years ended last Thursday possibly every newspaper and farm journal in Kansas has printed stories written by these students. The department's work has been commended by a dozen big publications, including *Collier's National Weekly*, the *Kansas City Star*, the *New York Journal*, the *Los Angeles Examiner*, the *Topeka Capital*, and by numerous farm papers. The system originated in the department has been adopted by the agricultural colleges of Oregon and Massachusetts, both of which states sent men to Manhattan to study the work. The methods employed in the department's publicity bureau have been taken up by five or six of the largest business firms in the country, and by three or four colleges, Cornell among the number.

Special articles on industrial subjects written by students have been printed, in the last ten months, in *The World Today*, *The Country Gentleman*, *The Technical World*, the *St. Louis Post Dispatch*, the *Kansas City Star*, *Wallace's Farmer*, and other publications by Harlan D. Smith; in the *Technical World*, the *Kansas City Star*, *Orange Judd publications*, by Laurence T. Perrill; in the *Country Gentleman*, the *Star* and many farm and technical papers, by Floyd Bruce Nichols; in the *Country Gentleman* and many newspapers, by Miss Lucile Berry; newspaper articles by Miss Mary Williams, T. A. Leadley, J. M. Palmer, and, indeed, every member of the class. The articles mentioned are set down because they were notable. In addition to their regular work the students issued special numbers of THE KANSAS INDUSTRIALIST, the *Manhattan Mercury*, the *Manhattan Nationalist*, and the *Students' Herald*.

Some of the students, graduated this week, have excellent positions. F. B. Nichols is to be agricultural editor of the *St. Joseph Fruit Grower*; H. M. Zeigler becomes editor of a farm page in the *Iola Register*; Edgar T. Keith goes to the *Bellefonte Telescope*; L. T. Perrill intends to travel in the West and write of the agriculture he sees; A. G. Vadakin goes to the *Marion Review*; J. M. Palmer will work for his father on the *Jewell City Republican*, and D. C. Clarke will go to the *Kansas City Star*.

THE CHORAL UNION'S CONCERTS.

Professor Valley's Forces, with Chicago Soloists, Gave Excellent Entertainment.

The old rule that everything done by the students, theatrical, musical or oratorical, shall be praised, need not be invoked in reviewing the concert, Wednesday night, by the Choral Union. It was an extraordinarily good performance throughout, and the applause—and the spontaneity of it—proved it was appreciated by people who knew music. The whole entertainment was the best possible testimonial to the thoroughness of Professor Valley's work in training the big company, and gave convincing evidence of what the students have to do to satisfy him.

The "Golden Legend" is not so tuneless as one familiar with Sullivan's works might expect, but there are passages that gave full opportunity, Wednesday night, for the soloists to

A Golden Text.

A soft answer turneth away wrath, but grievous words stir up anger.

The tongue of the wise useth knowledge aright, but the mouth of fools poureth out foolishness.—Proverbs 15: 1, 2.

display the range of voice they had brought to the task. The occasion was made especially pleasing for college people because it showed a college product, Leslie M. Baker, in the baritone part, singing with the professionals from Chicago. Mr. Baker took full advantage of his openings, too, and rose to the work in a manner very gratifying to his friends. The ensemble was excellent. Particular mention should be made of Miss Ping's work as accompanist, an extremely exacting assignment in this case and done with all this player's customary intelligent grasp. Mrs. Sidenius Zandt was the soprano; Miss Jennie F. W. Johnson, the alto; and David Dunbar, tenor. The orchestra's part in the "Golden Legend" was not heavy, but what it had to do it did properly. The Choral Union is to sing "Pinafore," next year. The artists' recital in the afternoon included song groups by all the professionals, assisted by Miss Ada Marie Baum at the piano, and Prof. R. H. Brown directing the college orchestra. About 3700 persons attended the two concerts.

THE CUB CLUB'S PRESIDENT.

Roy Davis, Working His Way Through, Heads the Journalistic "Frat."

Here is a picture of Roy I. Davis, first president of the Cub Club, the organization formed eighteen months ago by the students in the department



of industrial journalism. It is printed for three reasons: First, Davis, working his way through college, is a good student and represents the fine democratic spirit of the Kansas Agricultural College. Second, the Cub Club, which hopes some day to be a full-blown fraternity, ought to be encouraged. And third, it's a pretty fine picture. The Cub Club has twenty members, and every mother's son of them gained his membership by merit. Think that over.

THE COLLEGE IN CLAY.

Russell Williamson, a Student, Made the Model Exhibited this Week.

A model of the Kansas Agricultural College campus and buildings has been on exhibition in Anderson Hall this week. The model is a plaster cast made from clay. It is about six feet square. The work was done by Russell Williamson, a student in architecture, under the instruction of Frank Harris, a teacher in the department of architecture and drawing. All the buildings, trees and even the vines on the buildings are shown in the model. The buildings are correctly proportioned and placed. Two terms' work were required to complete it.

It is the intention of the department of architecture to make a number of these models and relief maps and place them on exhibition here and at Topeka. Many Commencement visitors were attracted to the model this week.

An Alumni Charter.

The senior class at the Kansas Agricultural College has applied for a state charter. The organization will be known as "The Kansas State Agricultural College Alumni Association

of the Class of 1912." Its purpose is "to bind its members together for their further educational development." The class of 1912 is the first class to incorporate.

HOWDY, DOCTOR KAMMEYER!

The Double L. D. Degree Is Conferred by the Kansas City University.

When Prof. J. E. Kammeier accepted an invitation, one day last week, to attend the commencement exercises at the Kansas City University he didn't suspect that he was about to be the central figure in an old-fashioned surprise party. But that's just what happened. There he was, on the platform, looking as solemn and serious as professors do upon such occasions, when—what do you think! A door opened and out came two or three faculty members who motioned to the Manhattan professor to come their way. Over he went. Almost in a jiffy they harnessed him into a set of robes and led him out before the assembled multitude, and before he knew what had happened he was a real, live, flustered, double L. D. And if you don't call him doctor—well, you won't amount to much. When a man has put in sixteen or eighteen perfectly good years instructing the youth of the land he deserves all the letters he can get.

MANY ENJOYED SENIOR PLAY.

Commencement Regrets Counteracted by Fun in "My Friend from India."

There hasn't been a play in the college Auditorium for many years with so many laughs as "My Friend from India," given by the seniors, Tuesday night. It was a real comedy, and the crowd which filled every seat in the big Auditorium laughed and applauded as if Willie Collier and an all-star cast were doing it. It was a story of the Underholt family of Kansas City and their vain efforts to enter New York society. As a tonic for the sad feeling in a departing class the play must have been effective.

Everyone in the cast did well; nobody forgot a line, and the costumes were appropriate. Add to this the pleasing effect of the new memorial lamps, a gift of the seniors, which lighted the entrances to the Auditorium for the first time that night, and you have a highly successful evening furnished exclusively by the class of 1912. E. P. Johnston, assistant professor of public speaking, coached the play. The cast:

Augustus Keene Shaver, "My Friend from India".....Roy E. Alexander
Erastus Underholt, a retired pork packer.....Edward Isaac
Charlie Underholt, his son.....Harry L. Smith
Tom Valentine, Charlie's friend.....J. Russell Fuller
Rev. James Tweedle, a missionary.....Guy G. Pingree
Jennings, a servant.....James West
Bill Finerty, a policeman.....L. Loren Fowler
Marion Hayste, Charlie's affianced.....Fairy Lightfoot
Miss Arabella Beekman-Streete, a widow.....Katherine A. Tucker
Tilly, a maid.....Mary E. Hickok

DAUGHTERS OF ERASTUS

Bernice Underholt.....Emma D. Kammeier
Gertie Underholt.....Frances L. Case

A SYSTEM FOR PRINTERS.

J. D. Rickman Explains a Method of Cost-Finding for a Small Office.

A cost-finding system suitable for small printing-offices is explained in a very correct little booklet just off the press of the printing department of the college. J. D. Rickman, superintendent of printing, devised the system and has proved it practicable by several years' use. He has written and published his explanation in response to many requests from country printers in Kansas who desire to use the system in their own offices.

"If a small office cannot afford to carry an elaborate cost-finding system, it can at least have a job envelope and time ticket," Mr. Rickman says. "The envelope is convenient in assembling and filing all copy, proofs, and data of a job. The value of the time ticket is two-fold: It records the time actually spent on the job and is an incentive to the employee to kill as little time as possible—the disposition of his time is recorded by himself, and he will be more careful how he reports it on jobs."

Mr. Rickman will send his book to anyone interested.

Commencement Day.

To Class of 1912.

This is the end: Commencement Day! The goal toward which I've struggled through the years.
And now, in cap and gown, I tremble so, scarce able
As I face the throng, to hide the tears.
The end? Why, this is but the door through which I pass
To do the work God has assigned to me.
And shall I nobly strive to do my part,
Or loiter and, so miss the victory?
—Charles Dillon.

SUNFLOWERS.

The Treasury Department has a plan to reduce the size of bills. We are for it.

It would be interesting, too, to know if Arthur Stilwell finally admits there is trouble in Mexico.

It is suggested that *Collier's* add to its list of overworked words these: Flapdoodle, makes for, and upstanding.

Will it always be "women first," after the women have equal rights? This is just a question, not an argument.

Meanwhile let us not forget that the average pay of teachers in the United States is \$500 a year. Try to remember this.

We note, with sorrow, that the fortune of John D. Rockefeller increased "by leaps and bounds," if *The Star's* story is to be believed.

Five thousand persons left Convention Hall without seats, according to the Weber and Fields story. And still, a Kansas City firm advertises "seats free."

The state historian announces his intention of publishing a list of the "dead towns" in Kansas. Careful, Archibald; it may develop that you live in one of the lot.

The "Bedtime Stories" in *The Star* would be much more welcome and very much more useful if they came to town before the children had been subdued for the night. The curfew in Manhattan blows at 8 o'clock.

The papers, a few days ago, told the story of a woman committing suicide while looking at the family album. She had nine children. This leaves us in doubt. The ordinary album would drive anyone to suicide.

"Everett," inquires the Bloomfield, District 82, correspondent of the *Beloit Call*, "Everett, who is going to use that new wringer and washing machine?" The chances are that Mrs. Everett is to have a job when she lights.

A Chicago girl refused to play a part in an amateur theatrical because it required her to be kissed. The stage manager was a dummy or he'd have had the right man in the opposite part. No woman refuses absolutely to be kissed.

"I never wore a 'dress suit' in my life, and I decided I wouldn't begin now," said a smart Alec speaker at a recent dinner in Manhattan. You've all met that kind of man. He seldom uses a toothbrush and his hair needs a shampoo.

It took many years for the railroads to realize that the public was entitled to the names of injured persons when a wreck was reported. The steamship companies will be waking some day to this truth—when aeroplanes take all their business.

Student.—Never criticise anyone's table manners unless you know he is not armed. A man killed another in Memphis, last week, when called to account for eating beans with a knife. Give your boisterous friend the able manners course.

Talcott Williams, of the Pulitzer School of Journalism, intends to have his student-reporters do assignments under the guidance of men from the New York papers. Two things they'll learn quickly: The way to Doc Berry's, and the theaters that are easy.

The attention of the class is drawn to the fact that Mr. Manning, whose marriage received a half column notice in *The Star*, last week, is not, really, a groom. He is in the grain business. The fact that the bride was on her father's arm was omitted by oversight.

KEEP A SWEET ICE BOX.

CLEANED ONCE A WEEK, IT WILL NOT TAIN FOODS.

Cover Cabbage, Fish and Other Such Foods in the Refrigerator—In Cleaning, Use Soap Suds, Hot Soda Water, and Clear Hot Water.

Watch your refrigerator closely this summer. It's better to have no refrigerator at all than to have one not perfectly clean and sweet.

In the first place, keep the shelves of the food chamber in good order. Wipe up any spilled liquids at once, and keep all crumbs brushed away. Do not allow odds and ends of food to accumulate in the refrigerator. If they are not used in a reasonable time, throw them away before they begin to spoil and taint the other food.

Milk absorbs odors very readily, as do most cooked foods also, though in a less degree. It is best, then, to cover closely such articles as fish, cooked cabbage, and the like, when they must be put into the ice box.

CLEAN EVERY WEEK.

Once a week the refrigerator should have a thorough cleaning. Remove all food from the food chamber, cover, and set in a cool place. Then remove the racks and wash them well with hot soap suds. Rinse with hot soda water, then with clear hot water. Wipe dry, and set in the sun to air. Borax or ammonia may be used instead of soda.

Wash the interior of the food chamber thoroughly in the same manner, using a small scrub brush. Use a sharp wooden skewer to clean the grooves and ledges that cannot be reached with the brush.

AS TO THE DRAIN.

The ice chamber next demands attention. Remove the ice, wrapping it in a piece of old flannel or newspaper to prevent melting. Then wash out the ice chamber with hot suds, and rinse first with hot soda water, then with clear hot water. The drain pipe should be cleaned with a flexible wire to which a bit of cloth is attached. Then pour down it hot soda water, and afterwards boiling water. See that every part of the refrigerator is wiped dry, and leave it open an hour or more to air.

If the refrigerator drains into the house drain, the traps must be carefully cleaned and kept in good working order. If a drain pan is used, it should be washed in the same way as the other parts of the refrigerator.

If this cleaning is done regularly every week, it will not take long or be very hard, and you will never notice that "ice-box taste" about any of your food.

ALUMNI NOTES.

Clarence Wheeler, '11, is visiting in Manhattan this week.

George Holmes, '11, who has been teaching at Yates Center, has returned to his home in Manhattan.

W. E. Berg, '11, who has been teaching school at Adrian, Minn., is visiting at the college this week.

Miss Edna Pugh, '11, visited in Manhattan recently. Miss Pugh has been teaching domestic science at Wathena, Kan.

Miss Goldie Eagles, '11, is visiting here this week. She has been teaching domestic science at Morrison, Colo., the last year.

W. G. Shelley, '07, also was here. He is another agronomy graduate who went back to the farm. His is near McPherson, Kan.

Miss Mabel McKenzie, '11, visited friends at the college recently. Miss McKenzie has been teaching domestic science in Idaho.

Grover Kahl, '07, who is employed by the General Electric Company, at Schenectady, N. Y., is visiting his parents in Manhattan.

A. W. Kirby, '08, who has been working in the electric lighting plant at Wakeeney, Kan., will go to St. Marys, O., to work in the electric lighting plant at that place.

Miss Isabella Arnott, '10, who has been teaching domestic science at the Fairbridge, Kan., high school, is visiting at the college this week.

Married, June 13, in Manhattan, Miss Genevieve Cunningham to George Young, '12. Mr. and Mrs. Young will live in Syracuse, Neb.

D. C. Bascom, '10, general secretary of the Y. M. C. A. in the Colorado Agricultural College, and Mrs. Bascom attended the exercises of Commencement week.

H. P. Richards, '02, and Miss Clara Shirk, of Topeka, were married May 28. Mr. and Mrs. Richards will be at home at 1424 Western Avenue, Topeka, after June 10. Mr. Richards is real estate and loan agent.

Carl Forsberg, '08, is visiting at the college this week. Mr. Forsberg has been at Schenectady, N. Y., with the General Electric Company, and is now on the way to San Francisco, where he will work in a branch office of the same company.

C. D. Adams, '95, is spending a few weeks here investigating horticultural methods. Mr. Adams is working with C. V. Holsinger, now of Wauwatosa, Wis. Mr. Adams will go to the Milwaukee, Wis., county high school to take charge of special work in horticulture.

Prof. John M. Scott, '03, and Mary (O'Daniel) Scott, '04, of Gainesville, Fla., are planning to spend Commencement week in Manhattan. Professor Scott is in charge of the animal husbandry department and vice director of the Florida Experiment Station.

Edwin H. Snyder, '88, is editor of *Denver Municipal Facts*, an illustrated weekly paper issued by the city whose name it bears. The paper tells of the advantages of Denver and Colorado generally, gives particular attention to the schools and the parks, and contains much other information of interest and value.

Roy Graves, '09, who has just received his master's degree in dairy husbandry at the University of Missouri, will go to Washington, D. C., July 1, as an assistant in the division of dairy husbandry. Mrs. Grace (Smith) Graves, '08, will visit in Manhattan a few days before joining her husband in Washington.

The Rev. and Mrs. Thomas Vance, of Santa Ana, Calif., have announced the marriage of their daughter, Anna W., to James R. Coxen. The marriage was May 30. Mr. Coxen was graduated here in 1907, and was prominent in college affairs. Mrs. Coxen was a student here. They will be at home after July 1 at San Marcos, Tex. Mr. Coxen is instructor in manual training in the Southwest Texas Normal School, at San Marcos.

LIGHT FROM THE '12 CLASS.

Lamp Posts, Fine Ones, Too, as the Beginning of a Campus System.

The class of 1912 of the Kansas State Agricultural College has the honor of leaving the most useful as well as most ornamental memorial ever left by a graduating class. It will pay for the starting of a lighting plan which has been worked out for the whole campus.

Four concrete bases have been made in front of the Auditorium. On these four electrolers, or posts, carrying five lights apiece have been erected. The light on the east is 12 feet past the end of the building and lights the steps well. The one on the west is about the same distance out and lights the driveway.

The posts are classic in style and are finished in statuary bronze. The detail is Ionic. The class numerals—1912—are cast in the steel at the base of the posts. The memorial cost the class about \$600. The college did the electric wiring for the lights.

Nearly every class graduating from the college leaves some memento on the campus. The class of 1908 left a fountain. The '11's expect to build an arch when the sight of the proposed driveway is definitely chosen. Other classes have left stones in the various college buildings.

A JOB FOR THE ALUMNI.

ANNUAL FEED DREW ATTENTION TO THE FIFTIETH ANNIVERSARY.

In February, 1913, the College Will Have Lived Half a Century—Are You Coming Back to Celebrate?

A member of the first class graduated from the Kansas Agricultural College, Mrs. Emma Haines Bowen, spoke, Thursday noon, at the annual Faculty-Alumni dinner, in the gymnasium. There were five members of that class, and four are still living. Mrs. Bowen's home is in Manhattan. Her presence at the dinner, and her reminiscent talk, drew attention to the fact that next year—next summer—the college will celebrate its fiftieth commencement. That means that every member of the alumni, everywhere, will have to do everything possible to get other graduates turned back to the old college to renew their loyalty, and to encourage, with organized assistance, those who are carrying on the work of the institution. The most valuable asset every educational institution has is, or should be, its alumni. President Waters spoke of this and told the diners that the regents had authorized a committee to begin, at once, to prepare for this big celebration. As this committee proceeds with its work it will inform the alumni through the columns of *THE KANSAS INDUSTRIALIST*, so that every graduate may keep in touch with the college and arrange to be among those who come back in 1913.

The annual dinner was a big success. Every member of the board of regents was present, and Arthur Capper, president, presided. There were many interesting and happy speeches. The list of available speakers was so long, however, that it was necessary to cut it down to these: Mrs. Bowen, '67; Warren Knaus, '82, McPherson; the Rev. A. D. Rice, '92, Atwood, Kan.; Lee H. Gould, '12, speaking for the new class; John W. Dawson, attorney general of the state; Senator W. N. Glenn of Greeley county; John H. Atwood, Commencement orator, Kansas City; Senator Thomas Potter, Marion county; Miss Effie Graham, Topeka, high school principal.

STUDENTS' RECITAL PLEASSED.

Young Artists in the Department of Music Gave a Versatile Program.

The music department gave its first entertainment of Commencement week Monday night. It was a students' recital in the Auditorium. The audience was entertained for an hour and a half with vocal solos and a duet, piano solos and a duet with two pianos, and violin solos. The numbers were all heartily applauded by an audience of several hundred persons. These students took a part: Rena Baldwin, Margaret Blanchard, Katie La Mont, Robert L. Barnum, Lawrence O'Brien, Lucile Berry, Alice Roberts, Eleanor Thomas, Ruth Blevens, Ruben Viander, Leslie L. Shaw, Ruth Edgerton, Merle Sims, Maria Morris, and Margaret Morris.

HIS 33rd COMMENCEMENT.

The Record Is Held by I. D. Graham, of the Kansas Farmer.

If the members of the alumni were one-half so faithful as I. D. Graham of Topeka, who is not a graduate of the Kansas Agricultural College, there might be a different story to tell about some things. Mr. Graham never was a student in the college. He was an employee for many years, part of the time secretary, and he formed the commendable habit of attending the Commencement exercises. He was here last Thursday, too—his thirty-third visit. Through all these years he has been a constant and consistent friend of the college.

These members of the alumni had registered, Thursday morning, for places at the annual Faculty-Alumni dinner: Emma (Haines) Bowen, Manhattan, 1867; R. C. Lofnick, Manhattan, 1875; George H. Fallyer, Manhattan, 1877; W. H. Sikes, Leonardville, Kan., 1879; Grace (Parker) Perry, Pocahontas, Idaho, 1880; W. Knaus, McPherson, Kan., 1883; Jacob Lund, Manhattan, J. T. Willard, Manhattan, both 1883; Hattie (Peck) Berry, Jewell, Kan., L. H. Neiswander, N. Topeka, Kan., R. No. 6, both 1884; D. E. Carr, Hungerford, Manhattan, 1885; E. H. Perry, Plainview, Tex., Ada (Quincy)

Perry, Manhattan, both 1886; S. N. Peck, Chicago, Ill., F. A. Marlett, Manhattan, F. G. Kimball, Manhattan, C. M. Breese, Manhattan, F. B. Elliott, Manhattan, all 1887; E. M. Padden, Frankford, Kan., 1887; S. C. Harner, Keosauqua, W. H. Sanders, Palm Beach, Fla., C. Puetze, Manhattan, Bertha (Kimball) Dickens, Manhattan, all 1890; S. L. Van Blarcom, Kansas City, Mo., Mayme (Houghton) Brock, Manhattan, H. W. Avery, Wakefield, Kan., B. Belle Little, Manhattan, Louise (Reed) Paddleford, Frankfort, Kan., all 1891; E. W. Reed, Holton, Kan., Bird E. Sechrist, Randolph, Kan., Elizabeth (Edwards) Hartley, Manhattan, J. W. Hartley, Manhattan, John Frost, Blue Rapids, Kan., A. D. Rice, Atwood, Kan., all 1892; J. D. Riddell, Enterprise, Kan., Albert Dickens, Manhattan, Carl Puetze, Manhattan, Nora (Newell) Hatch, Manhattan, all 1893; J. C. Christensen, Manhattan, Lorena (Helder) Morse, Olathe, Kan., Isabella (Frisbie) Criswell, Winona, Lake, Ind., Clara F. Castle, Manhattan, Alberta M. Cress, Manhattan, all 1894; G. C. Wheeler, Manhattan, C. D. Adams, Olathe, Kan., Marietta (Smith) Reed, Holton, Kan., T. W. Morse, Olathe, Kan., F. Eleanor (Fryhofer) Webster, Manhattan, Elsie (Crump) Ames, Boise, Idaho, Ada Rice, Manhattan, Edw. J. Abell, Riley, Kan., Geo. Dean, Manhattan, all 1895; Ed. Webster, Manhattan, Susan (Johnson) Cooper, Beardsley, Kan., R. No. 1, A. C. Havens, Manhattan, Inez (Palmer) Barrows, Clifton, Kan., John Poole, Manhattan, F. E. Uhl, Manhattan, Martha (Fox) Smith, Manhattan, all 1896; B. R. Hull, Manhattan, Mabel (Crump) McCauley, Chicago, 6806 Monroe Ave., O. E. Noble, Manhattan, Margaret (Correll) Uhl, Manhattan, Harriet (Vandivert) Remick, Manhattan, all 1897; T. W. Allison, Florence, Kan., Alice M. Melton, 804 Moro St., Manhattan, William Poole, Manhattan, B. E. (Locke) Noble, Manhattan, R. H. Brown, Manhattan, E. L. Smith, Manhattan, Josephine (Wildner) McCullough, Delavan, Kan., Schuyler Nichols, Herrington, Kan., Harriet (Nichols) Donahoe, Tucuman, N. Mex., A. B. Symms, Troy, Kan., all 1898; C. C. Jackson, Westmoreland, Kan., Roscoe Nichols, Liberal, Kan., both 1899; J. W. Harner, Keats, Kan., L. W. Waldraen, Winkler, Kan., J. H. Blachley, Manhattan, Minerva (Blachley) Dean, Manhattan, Clara Spilman, Manhattan, Jessie Wagner, Enterprise, Kan., Mr. and Mrs. H. M. Bainer, Amarillo, Tex., all of 1900; Fanny Dale, Manhattan, C. N. Allison, Falls City, Neb., Erma Locke, Phillipsburg, Kan., Ina F. Cowles, Manhattan, Helen (Knotman) Pratt, Manhattan, C. A. Scott, Manhattan, L. B. Jolley, N. Chicago, all of 1901; Sarah E. Davis, Riley, Kan., Edw. W. Hoise, Kansas City, Kan., L. F. Fitz, Manhattan, Fred Walters, Chickasha, Okla., P. H. Ross, Montrose, Kan., G. Poole, Manhattan, E. M. Amos, Manhattan, all of 1902; H. A. Spilman, Manila, P. I., Howard M. Chandler, Manhattan, Rose McCoy, Wamego, Kan., John M. Scott, Gainesville, Fla., Anna (O'Daniel) Amos, Manhattan, all of 1903; Grace McCrone, Olathe, Kan., Amy Allen, Manhattan, J. B. Griffin, Medford, Ore., Viva (Harrison) Harrison, Manhattan, Mary (O'Daniel) Scott, Gainesville, Fla., Mayme Hassebrook, Montecello, Ark., Beulah (Fleming) Blachley, Manhattan, Augusta (Griffing) Harlan, St. Paul, Minn., S. Maud Smith, Manhattan, all of 1904; Gertrude Nicholson, Manhattan, Elva V. Akin, Manhattan, L. Ethel Clemons, N. Yakima, Wash., G. O. Kramer, Wabunsee, Kan., A. J. Rhodes, Topeka, W. Kane, Manhattan, J. M. Dow, Manhattan, all of 1905; J. W. Calvin, Manhattan, Winifred H. Dalton, St. George, Kan., A. C. Ferris, Syracuse, Kan., Edith Coffman, Manhattan, Edna Brenner, Manhattan, Verda (Murphy) Hudson, Manhattan, Grace (Enfield) Wood, Pittsburg, Kan., Odessa Dow, Manhattan, all of 1906; Ethel (Berry) Hull, Shady Bend, Kan., Flora M. Hull, Manhattan, E. W. McCrone, Haddam, Kan., Wilson G. Snell, McPherson, Kan., Alfred E. Jones, Minneapolis, Kan., J. L. Joseph, Mo., Margaret (Cunningham) Holloway, Marysville, Kan., A. D. Holloway, Marysville, Kan., Ethel McDonald, Manhattan, Cecile Allentharp, Casey, Ill., Miner M. Justin, Manhattan, Elizabeth Randle, Manhattan, L. B. Streeter, Wakefield, Kan., Kate (Hutchinson) Streeter, Wakefield, Kan., all of 1907; Jessie Allen, Manhattan, E. B. McKinnell, Topeka, H. Gish, Lincoln, Neb., Orr O. Morrison, Chicago, Marcia Pierce, Junction City, Kan., Edith B. Justin, Manhattan, B. S. Wilson, Manhattan, Harry McLean, New Brunswick, N. J., Edna A. Munger, Manhattan, Ira A. Wilson, Winfield, Kan., T. P. Haslam, Manhattan, all of 1908; Lulu M. Porter, Oregon City, Ore., A. G. Kittell, Topeka, Frances L. Brown, Manhattan, Ida E. Rigney, Manhattan, Edith E. Jones, Manhattan, J. L. Lill, Manhattan, Margaret Copley, Manhattan, Anna W. Carlson, Manhattan, Franklin A. Adams, Maple Hill, Kan., H. S. Records, Manhattan, G. C. Rexroad, Hutchinson, Kan., Effie Steele, Minneapolis, Kan., Juanita Sutcliffe, Manhattan, Kathleen Selby, Downs, Kan., Mabel (Hazen) Rexroad, Hutchinson, Kan., P. E. McNall, Gaylord, Kan., Edson F. Kubin, Manhattan, T. Newton Hill, Beckley, W. Va., Chas. M. Willis, Manhattan, E. C. Reed, Independence, Kan., J. M. McCray, Holton, Kan., S. Elizabeth Cassell, Manhattan, F. B. Milliken, Manhattan, Chas. Boyle, Spivey, Kan., all of 1909; Chas. L. Zoller, Kirwin, Kan., R. A. Branson, Little River, Kan., Wm. F. Droge, Manhattan, F. H. Schreiner, Ottawa, Kan., Nellie L. Thompson, Manhattan, Matah L. Schaeffer, Jewell, Kan., Lucile M. Forest, Thayer, Kan., Christine M. Heim, Lincoln, Kan., Maude Estes, Junction City, Kan., Esther Thayer, Kan., Carrie E. Gates, Altamont, Kan., Ethel M. Justin, Manhattan, Ella Hathaway, Mankato, Kan., Hope Palmer, Arkansas City, Kan., Bessie White, Manhattan, T. E. Clarke, Medora, Kan., A. J. Ostlund, Washington, Kan., Reynold Schuyler, Sterling, Kan., Wray R. Reeves, Haswell, Colo., Eugenia Fairnie, Manhattan, W. L. Blizzard, Manhattan, Ida Crow, Lincoln, Neb., Louberta Smith, Chiverton, Colo., Ruth Kellogg, Manhattan, Rena Faubian, Eureka, Kan., Reva Cree, Manhattan, Mattie Kirk, Bazaar, Kan., Viola Hepler, Manhattan, Emma (Lee) Kubin, Manhattan, Edna M. Jones, Manhattan, Clara Woestemeyer, Bethel, Kan., Isabelle Arnott, Blue Rapids, Kan., Estella Soupe, Manhattan, D. C. Bascom, Sterling, Colo., Lella Dunton, Manhattan, Ethel Coffman, Manhattan, Roy M. Johnson, Mankato, Kan., Glenn A. Bushey, Westinghouse Club, Wilkesburg, Pa., Gladys Irene Nichols, Manhattan, W. P. Shuler, Manhattan, E. H. Dearborn, Manhattan, Wilbur McCampbell, Manhattan, John Gingersy, Manhattan, all 1910; Jay Kerr, Dillon, Mont., G. E. Dull, Washington, Kan., Mary E. Simmons, Manhattan, J. H. Hoffman, Atchison, Kan., Bert J. McFadden, Stafford, Kan., Eme Adams, Manhattan, Edward Larson, Vesper, Kan., Winona Miller, Kansas City, Kan., Fern Jessup, Merriam, Kan., L. P. Price, Kansas City, Mo., Irene Case, Lyons, Kan., Velma Myers, Manhattan, Louis Wirmelskirchen, Manhattan, Wm. Bruner, Chicago, Blanch Ingersoll, Kirwin, Kan., Winifred E. Cowan, Kensington, Kan., Maye Buttr, Eureka, Kan., Edna Pugh, Junction City, Kan., W. E. Berg, Red Wing, Minn., Clara Peters, Manhattan, Edna Soupe, Manhattan, Ellen E. Nelson, Randolph, Kan., Harlan D. Smith, Manhattan, Mabel Lundgren, Haviland, Kan., Mary Dow, Manhattan, Percy G. Davis, Manhattan, R. E. Hunt, Marysville, Kan., M. A. Pulver, Wamego, Kan., H. Harbecke, Westinghouse Club, Wilkesburg, Pa., A. E. Anderson, Manhattan, Ellen Batchelor, Manhattan, Edith O'Brien, Manhattan, Mildred K. Huse, Manhattan, P. C. Viander, Manhattan, Gladys Seaton, Jewell, Kan., Flora H. Morton, Sabetha, Kan., Paul A. Steuwe, Alma, Kan., Percy B. Potter, Peabody, Kan., O. A. Findley, Manhattan, A. L. Kahl, Manhattan, E. C. Reed, Manhattan, Clara Raemer, Herkimer, Kan., Clara Bergh, Adrian, Minn., Andrew Wheeler, Tyro, Kan., Clarence Wheeler, Tyro, Kan., E. M. Schroer, Manhattan, T. F. Parker, Cottonwood Falls, Kan., Zephierine (Towne) Shaffer, Leavenworth, Kan., R. E. Blunt, Marysville, Kan., all 1911.

WHERE SOME ARE TO GO.

A NUMBER OF THE GRADUATES ALREADY HAVE "JOBS" IN WAITING.

Teachers, Veterinarians, Editors, Engineers, and Farmers Will Start for Themselves This Week—The Lucky Ones.

Some of the members of this year's graduating class will teach school, others will go to other colleges or return here for postgraduate work; some will go into the engineering professions; some will be "at home" for the present. The seniors are getting jobs, not positions. These senior girls will teach domestic science: Lola Brethour, at Glendale, Ariz.; Ruth Bright, Deming, N. Mex.; Dora Brown, Junction City, Kan.; Vida Cowgill, Almena, Kan.; Martha Elliott, Fairbury, Neb.; Ellen Hall, Goodland, Kan.; Mildred Inskeep, Olathe, Kan.; Emma Kammeyer, Sterling, Kan.; Fairy Lightfoot, Haskell Institute, at a salary of \$1200; Bessie Moorman, Ellinwood, Kan.; Effie Mulford, Roswell, N. Mex.; Selma Nelson, Conda, N. Dak.; Mina Ogilvie, Moran, Kan.; Alice Roberts, Oskaloosa, Kan.; Marcia Story, Logan, Kan.

SOME ARE TO TEACH.

Some of the senior girls who will teach domestic science, but who have not obtained schools, are: Nelle Lindsay, Myra Munger, Hazel Myers, Katherine Tucker, Mary Lee Turner, Emma Valentine, Mary Williams, Susan Wingfield, Nellie Wreath, Jessie McKinney, Evalyn Bentley, Frances Case, Berta Chandler, May Cowles, Edith Earnheart, Mary Hickok.

Some of the senior men who will teach agriculture and manual training, or one of those subjects: L. J. Coblenz, at McPherson, Kan.; R. Harris, Stafford, Kan.; J. R. Hewitt, Breckenridge, Minn.; P. M. Hewitt, Sandstone, Minn.; Charles Lyness, Adrian, Minn.; E. H. Martin, Blue Earth, Minn.; L. T. Perrill, Waitsburg, Wash.; Merle Sims, Anthony, Kan.; Luther Willoughby, Winfield, Kan. Merton Cozine will teach, also, but has not obtained a school.

The veterinary graduates also will be busy. Some of them have made arrangements to begin practice. T. A. Case and Guy Pingree will form a partnership and practice at Hutchinson, Kan., and Charles Hartwig will be on a stock farm and practice near Goodland, Kan.; George Young will practice at Syracuse, Neb.; L. B. Wolcott will go to Pennsylvania; George W. Hill expects to practice.

AND SOME ENGINEERS.

Of the engineers, A. A. Adams, electrical engineer, will be with the Pacific Electrical Company; E. R. Cooke will be in the employ of the Western Electric Company, at Chicago. Harry Noel will do civil engineering work in Idaho. E. D. C. Miller will be with the Santa Fé, at La Junta, Colo.

A few seniors will take advanced college work. Ruth Edgerton will take postgraduate work at this college. So will Katherine Justin. Karl Musser will work for a Master of Science degree in dairy husbandry at the University of Missouri. Fern Weaver will take work at this college. Ed. Hungerford will study for a Master of Science degree here.

Speer W. Callen expects to study medicine. Willis Kelley will aid his father in the milling business at Wichita. Edgar Keith will go to the *Belleville Telescope*. Floyd Nichols will begin work July 1 as agricultural editor of *The Fruit Grower*, a monthly magazine published at St. Joseph, Mo. Viva McCray may attend the University of Missouri.

Many others of the class have not decided definitely where they will be. James Alsop will farm at his home near Wakefield, Kan. W. D. Essmiller will farm at Great Bend, and L. H. Gould at Wilroads, Kan.

Ball Game to the Regulars.

The 'varsity baseball team defeated the alumni players in the annual game, Wednesday. The score: 4 to 3.

SHORTAGE OF HOGS NOW.

CHOLERA AND SCARCITY OF CORN REDUCED THE COUNTRY'S SUPPLY.

The Plague Caused Many Animals to be Forced on the Market, Unfinished—Will Take Two Years to Recover, Waters Says.

This country is experiencing a shortage of hogs such as it has not had for years. The shortage was caused, in part, by the high price of corn, which was the result of the drouth last summer, and by the great scourge of hog cholera. The relative price of corn and hogs has been such for the last three or four years that frequently the farmer was tempted to sell the corn rather than raise hogs.

"The loss from cholera in all the hog states last fall and winter was the heaviest ever known," said H. J. Waters, president of the Kansas Agricultural College, yesterday. "And the spreading of the disease caused thousands of hogs to be forced on the market in an unfinished condition. They were thin and light. Hogs that should not have been marketed until they weighed 225 pounds or more were marketed when they weighed 150 pounds or less.

POOR CROP OF PIGS.

"Many brood sows were sold, so that the number of fall pigs was less than usual. These pigs will not be ready for market until midsummer or next fall. This spring's pig crop was the poorest in many years. The sows were weak and the weather was bad, causing a heavy loss ranging from 20 to 75 per cent of the pigs farrowed. The average of the country this spring probably would be less than five pigs from every sow.

"It will take a good corn crop next fall and two years' breeding to bring the hog supply back to the normal. Heavy and very fat hogs are selling at a premium now, as they always do when corn is scarce or when there is a shortage of hogs. There is a shortage of lard and heavy sides."

SOME RECORD YIELDS.

Twelve Berkshire sows owned by the college farrowed 103 pigs this spring. They raised 82, making an average of about seven pigs from every sow. Thirteen Duroc sows farrowed 132 pigs. The Duroc sows raised 101, or almost eight pigs from every sow. Six Poland China sows farrowed 43 and raised 29, averaging slightly fewer than five pigs raised from every sow. The total number of pigs farrowed was 278; the number reared, 212. The highest number farrowed by any sow was 13. The sow, a Duroc, raised 10 of the 13, but two of the other Durocs and one Berkshire raised 10, also. One Berkshire and one Poland China sow raised only two of the three pigs that each farrowed.

WHAT THE SENIORS DID.

The Lighting System Given the College Was Dedicated Wednesday Morning.

A senior in cap and gown, standing on a boulder—a proof, it is declared, of the glacial drift—surrounded by other seniors in their official regalia, dedicated the new lighting system for the Auditorium, Wednesday morning, the gift of the class of 1912. The class breakfast, as usual at Commencement time, had been eaten on the campus at 6 o'clock. After the dedication talks the seniors did these things:

Visit Anderson Hall.....
.....Talks by Deans Webster and Brink
Visit Mechanical Engineering Building.....
.....Talk by Dean McCormick
Visit Physical Science Building.....
.....Talk by Dean Willard
Visit Domestic Science Building.....
.....Talk by Dean Van Zile
Chapel Exercises.....

Roy Davis, orator, Websterian, president of the Cub Club, was the first speaker in chapel. Mr. Davis urged the importance of service that would help mankind. Miss Mary Williams read an exceptionally fine paper; Karl Musser told a good story and gave the undergraduates a lot of advice, and Earl Sims sang, "If I Had the World to Give," with "Believe Me if All Those Endearing Young Charms" as an encore.

SENIORS WHO RECEIVED THEIR DEGREES.

Here Are the Names of the Successful Students in the Forty-Ninth Commencement.

The graduates are shown here by courses. The list, it will be noticed, does not include short-course students.

Graduates by Courses:

Agronomy

Borden Frazier Beck
Albert Leroy Berry
George William Blythe
David Andrew Goldsmith
Frank Baxter Lawton

George Eugene Maroney
Floyd Bruce Nichols
Ephraim Andrew Ostlund
Malcolm Cameron Sewell
Leslie Leon Shaw

Animal Husbandry

James Edgar Alsop
Tom Jones Darrach, Jr.
William Diedrick Essmiller
Ira Loren Fowler
Orville Edward Giger
John Homer Goheen
Lee Ham Gould
Ray L. Graves
Paul McGee Hewitt
Ray Delbert Lafin

Charles Enoch Lyness
Scott Roger McDonald
Earl Harrison Martin
Oscar Marion Norby
Glenn Decatur Paddleford
Kenneth W. Phillips
Ernest Otto Sechrist
Harry Nelson Shuler (deceased)
Harry Lewis Smith
Harold Pope Wood

Dairy Husbandry

Mark Abildgaard
Benjamin Franklin Buzard
Stanley Arno Combs
William Henry Harrison Grinter

William Ross McCoy
Karl Bryant Musser
William Theodore Parry
Walter Edwin Tomson

Horticulture

Roy Ellsworth Alexander
Stanley Penrhyn Clark
Luther James Coblentz
John Ralph Cooper
Edward Isaac

Henry Clay Lint
Edmund Charles Magill
Irving Campdoras Root
Louis Coleman Williams
Albert Franklin Yeager

Veterinary Medicine

John William Brown
Thomas Arthur Case
Frederick C. Duttlinger
George DeWitt Elder
Oliver Morris Franklin
John Russel Fuller
Charles Hartwig
Charles Appleton Hazzard
George Wilkie Hill

George Kernohan
M. Edwin McDonald
Dudley Pellette
Guy Giles Pingree
William Arthur Pulver
Warren Earl Simonsen
Allen Homer Whitney
Leroy Bushnell Wolcott
George Asbury Young

Architecture

Edwin Harrison Brooks

Walter Gilling Ward

Civil Engineering

Richard Harris
Walter Tope Hole
Harry Noel

Franco Thomas Rosado
Abel Segel
William Edward Stanley

Electrical Engineering

A. Arthur Adams
Fred Spencer Bradford
David Brandt
Carl Shipman Breese
Edgar Raymond Cooke
Edgar Hamilton Dearborn
Earl Watson Denman
Glenn Raymond Fickel

Benjamin Franklin Hillebrandt
Frank Livingston
Edwin Darrach Carlisle Miller
William David Moore
Henry William Schmidler
Robert Daniel VanNordstrand
Raymond McKee Wolfe

Mechanical Engineering

Burton Lewis Barofsky
Thomas Reed Bartlett
Albert John Mack
James Morton Nicholson

Floyd Pattison
Cyrus McDonald Scott
Roy L. Walthour

Printing

Edgar Keith

Home Economics

Nellie Mae Baker
Ethel Loleta Bales
Flora Edna Brenner
Ruth Bright
Mabel May Broberg
Dora May Brown
Edyth Blanche Campbell
Frances Louise Wilt Case
Berta Lorena Chandler
May Louise Cowles
Mollie Elizabeth Eagles
Emily Ebner
Ruth Edgerton
Martha Elliott
Dora Jean Ellis
Lois Ruth Gist
Lottie Ella Gugenhan
Emma Ellen Hall
May Hartwell
Mary Elizabeth Hickok
Hazel Juanita Hoke
Adelaide Julia Holmes
Alice Holmstead
Mildred Lee Inskeep
Catherine Laura Justin
Emma Dorothy Kammeyer
Pauline Kennett
Fairy Lightfoot
Nelle Easter Lindsay
Martha Eva Linn
Viva Margaret McCray
Eula Delpha McDonald

Jessie Estelle McKinnie
Bessie Moorman
Stell Morton
Effie Jane Mulford
Myra May Munger
Hazel Helen Myers
Selma Emelia Nelson
Jessie Newland
Jessie Nichols
Valerie Almira Ogilvie
Lucy Platt
Alice Dunbar Roberts
Josephine Robinson
Margaret Rodgers
Essie Blanche Schneider
Etta Sherwood
Carrie Marietta Shumway
Lottie Geneva Stephenson
Marcia Story
Eva May Surber
Edith Grace Terhune
Ellen Maude Terhune
Alice Marie True
Katherine Ann Tucker
Mary Lee Turner
Emma V. Valentine
Vera Arvena Ware
Florence Rilla Whipple
Mary Catherine Williams
Susan Elizabeth Wingfield
Nellie Lunette Wreath

General Science

Elizabeth Aberle
Nellie Aberle
Leon Newton Ambler
Speer Woodson Callen
David Charles Clarke
Harry Cole
Nannie Carnahan Cole
Merton Leroy Cozine
Walter Criswell
Frank Cutter Ellis
Katherine Lucy Emslie
Clarence Griffing Fry
Rees William Hillis

Edwin Hungerford
Willis Norton Kelly
Elmer Frederic Kittell
Walker McColloch
Irene Sophia McCreary
Celia Caroline Moore
Ivan Arch Moorhead
Merl Hudson Sims
Chester Francis Turner
Edgar Allen Vaughn
Clarence Watson
Luther Earle Willoughby

Industrial Journalism

Laurence Todd Perrill

Master of Science

Leila Dunton, B. S., K. S. A. C., 1910.
William Hislop, B. Sc. in Agri., University of Edinburgh, 1911.
Kenneth Karl Jones, A. B., Fairmount College, 1910.
Kirk Harold Logan, A. B., University of Kansas, 1902.
Ada Rice, B. S., K. S. A. C., 1895.
William Preston Shuler, D. V. M., K. S. A. C., 1910.

More Than Twenty Ways to Learn.

That Is To Say The

:- Kansas State :- Agricultural College

Has That Many Courses to Offer.

**Twenty-five Hundred and Twenty-three
Boys and Girls—All Except NINETY
From Kansas Homes—Entered in
This Big College Last Year.**

**They Were Getting Ready For
T-O-M-O-R-R-O-W.**

**WHY DON'T YOU COME?
CHOOSE FROM THESE:**

Division of Agriculture.

Four-years courses in agronomy, animal husbandry, dairying, horticulture, and in veterinary medicine.

A two-years course in agriculture. A two-years winter short course in agriculture. A two-years winter short course in dairying. A one-year winter short course in dairy manufactures. A short course in testing dairy products.

A Six-Weeks Summer Course for Teachers.

Courses in poultry husbandry, the milling industry, forestry.

Division of Mechanic Arts.

Four-years courses in mechanical engineering, in electrical engineering, civil engineering, architecture, and in printing. One-year courses in foundry work and pattern making, blacksmithing, drafting, and machine shop practice, and in boiler and engine practice.

A Summer Course in Manual Training for Teachers.

Division of Home Economics.

A four-years course in home economics—which means cooking and sewing and other useful things for girls and women—a six-months course in housekeeping, and a twenty-weeks course for teachers.

General Science.

Fifteen organized four-years courses in pure and applied science in mathematical, physical, biological, educational and economical lines. This division is especially to fit students for investigational and other educational work, particularly in the government service. In the courses is included INDUSTRIAL JOURNALISM, or applied English. This is not a school for prospective newspaper reporters. It teaches students to write entertainingly of the farm and the home, and of other industrial topics. It fits young men for positions on farm papers and trade publications.

Correspondence Courses.

Instruction is offered, in the department of college extension, in thirty or more subjects. The list includes

Animal breeding.	Highway construction.
Concrete construction.	Home decoration.
Cooking.	Household management.
Dairy farming.	Household sanitation.
Dairy manufacturing.	Insects injurious to farm crops.
Elementary agriculture.	Insects injurious to orchard crops.
Elementary woodwork	Landscape gardening.
Farm building.	Poultry management.
Farm crops.	Rural sociology.
Farm drainage.	Sewing.
Farm mechanics.	Soils.
Farm motors.	Stock feeding.
Floriculture.	Vegetable gardening.
Forestry.	Vocational education.
Fruit growing.	

Entrance Requirements.

The college reaches down to the common school. It takes students as soon as they have completed the common-school course. Young people who enter the college with a common-school diploma, or who are able to take an examination in the subjects required for such diploma, may enter the sub-freshman class. Students who have had two years' work in any accredited high school will be able to enter the agricultural college in the freshman year of any of the courses; and will there receive not only instruction in the academic branches named, but will receive the laboratory drill in corn judging, stock judging, shop work, cooking, sewing, etc.

For Catalogue or Any Information Address

President H. J. Waters,
Manhattan, - - - - - Kansas.